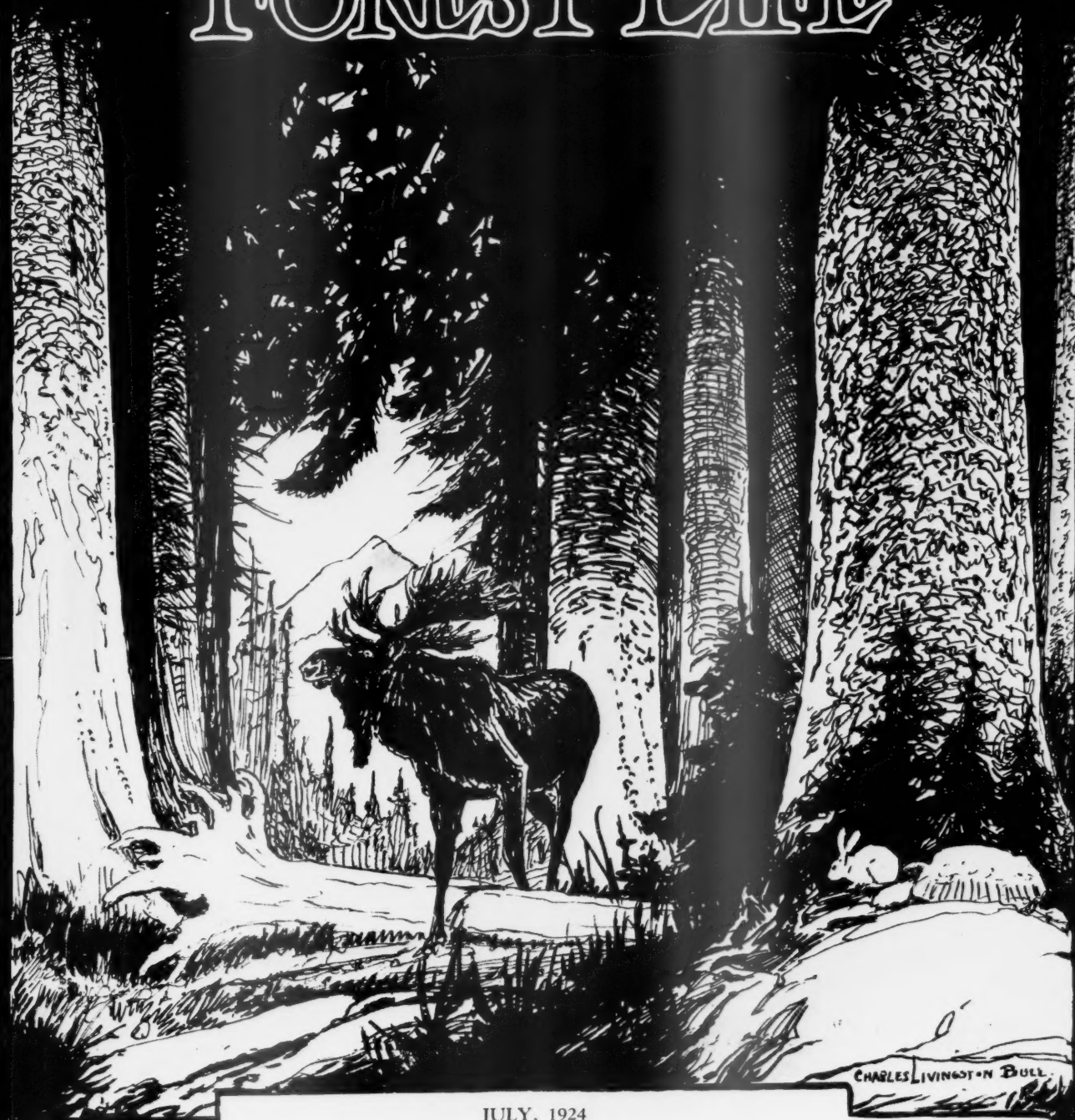


# AMERICAN FORESTS *and* FOREST LIFE



JULY, 1924

THE LAST OUTPOST : : LITTLE BILL ELK  
HONEY ISLAND,—A WATERWAYS PARK

VOL. 30, No. 367

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# The American Forestry Association

Washington, D. C.

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The ESTABLISHMENT OF NATIONAL AND STATE FORESTS where local and national interests show them to be desirable; the CONSERVATIVE MANAGEMENT OF PUBLIC AND PRIVATE FORESTS so that they may best serve the permanent needs of our citizens; the development of COMMUNITY FORESTS.

FOREST RECREATION as a growing need in the social development of the nation; the PROTECTION OF FISH AND GAME and other forms of wild life, under sound game laws; the ESTABLISHMENT OF FEDERAL AND STATE GAME PRESERVES and public shooting grounds; STATE AND NATIONAL PARKS and monuments where needed, to protect and perpetuate forest areas and objects of outstanding value; the conservation of America's WILD FLORA and FAUNA.

The EDUCATION OF THE PUBLIC, especially school children, in respect to our forests and our forest needs; a more aggressive policy of RESEARCH AND EDUCATIONAL EXTENSION in the science of forest production, management, and utilization, by the nation, individual states, and agricultural colleges; reforms in present methods of FOREST TAXATION, to the end that timber may be fairly taxed and the growing of timber crops increased.

# AMERICAN FORESTS AND FOREST LIFE

(Formerly American Forestry)

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Member A. B. C.

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Mobilization of the Great American Army of Summer pleasure-seekers is under way! The advance on mountain, stream, and forest—noncombatants whose resources will support and refresh the invaders—is well begun! The smoker, the camper, the foothill rancher, are plunging into the Summer offensive against the great out-of-doors! Let fervent patriotism temper this campaign. Let the swords of carelessness be beaten into the plowshares of reverence. Let all the multitudes advance, but let them remember that America is their home, and that it, with all its lands, forests, waters, and mountains, is in their keeping.



# AMERICAN FORESTS

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## *The Last Outpost*

*A Land of History, Legend, Mystery—the Thunder Mountain Country of Idaho Has Remained the Unconquered Wild*

By W. C. McCORMICK

**H**AVE we still a frontier? Has this greatest of all adventure settings disappeared before the progress of civilization? Is there a place "far from the madding crowd?" Does Nature reign supreme in any portion of our land? Are there "valleys unpeopled and still?" If you ask me these questions, here is my answer.

Out in the heart of Idaho, near the intersection of longitude  $114^{\circ} 50''$  west and latitude  $45^{\circ} 20''$  north, a mountain peak thrusts its granite crown over nine thousand feet into the heavens. From the wind-swept dome of this lofty pile of granite your gaze may wander over timbered hills and grassy valleys embracing more than 3,500



GREAT HILLS SCULPTURED BY THE ALMIGHTY—GRASSY VALLEYS, "UNPEOPLED AND STILL"—MUSIC OF HIGH WINDS THROUGH TALL TREES, AND YOU HAVE THE "LAST OUTPOST"—A LAND FLINGING OUT TO THE HORIZON, UNCIVILIZED AND STUPENDOUS

square miles of virgin frontier containing a population of less than seventy-five souls. Immediately surrounding this mountain are better than two thousand square miles of forest and valley whose population is less than fifteen hardy pioneers. The area occupied by these seventy-five people is equal to that embraced in the States of Delaware and Rhode Island combined.

This natural observatory is used by the United States Forest Service as a lookout point. It is one hundred and thirty-seven miles from the nearest railroad, eighty-nine miles from the nearest town and automobile travel, fifty-three miles from the end of a wagon road, and thirty-three miles from the nearest settler's cabin. If this does not get you far enough from civilization you may go for another twenty miles. But the trail ends at the lookout and you must travel the remaining distance on foot.

No, the frontier has not gone. On a clear day, from this lofty peak you may gaze into the north for a distance of fifty miles. From the deep gloom of the Salmon River Canyon below you, up through the multi-colored crags of the Bitter Roots, to the rock-ribbed crest where General Howard, in the summer of 1877, followed Chief Joseph and his little band of Nez Perce warriors in the most spectacular retreat ever accomplished by any army—white, red, or black. Eighty miles to the westward you may see the clear-cut, steel-gray pinnacles of the Seven Devils, thrusting their seven lofty peaks above the blue haze of the Snake River. To the south, their jagged points silhouetted against the deep blue of the southern sky, the clear-cut outline of the Sawtooth Range breaks abruptly out of a maze of smaller mountains, while from the chasm at your feet, as you face the east, the long winding canyon of the Salmon River guides your eye to the towering peaks of the mighty Rockies, fifty miles away. If it is Nature you seek, surely this great panorama should please the most fastidious. It is here, unblemished, untouched by the hand of man. Yes, millions of acres of it.

History, legend, mystery—the very winds issuing from the dark canyons breathe it. Travel over these winding trails; camp on these creeks; climb these peaks of blue granite; wander through the hidden meadows, carpeted with wild flowers, where the elk and deer gaze upon you in wonderment, without a sign of fear; stand on the shore of some hidden lake, where ax-marks are yet to be made, with only the half-human cry of the loon to break the

great silence; study the weather-beaten board where it has rotted and fallen at the head of what was once a grave; sit on the edge of the tepee hole and picture the days when a camp of a hundred braves was pitched on that little meadow; study the weather-beaten sign-language painted on the flat face of some cliff by a renegade band of Indians during the days of Lewis and Clark. If you are a dreamer, here, surely, is a paradise.

The first white man to tread this soil was Captain William Lewis. Of this there is no question. Lewis and Clark crossed the Bitter Root Mountains, on the northern end of this area, during their expedition of 1805-6. In

all probability adventurous prospectors roamed through a portion of this country in the early "sixties," as gold was discovered in Florence in 1861, and in 1862 Jim Warren, in company with a few men, en route to the Boise Basin country, camped on the edge of this land, discovering gold on the creek that afterward bore his name.

Roving bands of Indians, mostly Nez Perce, were known to hunt here in the early "fifties." In 1861 a renegade band of Indians, mostly Bannock, occupied sections of the country as a permanent hunting ground. It abounded in game of all kinds. Big-horn sheep, Rocky-Mountain goat, elk, deer, and moose were to be found in unlimited numbers. From the number of bleached heads of big-horn sheep one finds, these animals must have existed in great herds. They were apparently easy prey for the stalking Indians, who eventually lost their identity through separation from their own tribes and, subsisting chiefly upon the meat of the mountain sheep, they became known as the Sheep-eater Indians, a name which followed them until their return to their reservations, years later.

The gold strike on Warren Creek produced a camp second to Florence, and thousands of prospectors poured into the

country from far and near. Over thirty millions of dollars in nuggets were taken out of the sands of Warren Creek. Prospectors drifted into the hunting grounds of the Sheep-eaters with little fear of them, as they were held to be friendly toward the whites. While no placer ground was found in paying quantities, much high-grade gold-bearing quartz was discovered and developed in later years.

The climate of the valleys is much milder than would be expected, considering the many high mountains which surround them. While the higher country is covered with



BEAUTY LIVES IN THIS LAND OF MYSTERY AND ROMANCE; BENDING TREES GIVE EAR TO THE VOICE OF THE STREAM



FROM WIND-SWEPT GRANITE PEAKS CLOSE TO THE CLOUDS SPREADS THE VIRGIN FRONTIER—A PANORAMA OF THREE THOUSAND FIVE HUNDRED SQUARE MILES OF FOREST, MOUNTAINS, AND VALLEY CONTAINING A POPULATION OF LESS THAN NINETY SOULS

many feet of snow during the winter months, the valleys are comparatively free from the grip of winter. Of the many prospectors traveling through the country during the days of the Warren boom, a few "squatted" upon some of the more desirable agricultural lands near Warren, raising fruit and vegetables, which were sold to the miners in the camps, oftentimes at prices more inducive than the search for gold. Among those deserting the pick for the plow was one, Raines by name, who settled on a small tract of land within a day's travel of the Warren camp. Here he planted fruit trees and raised a garden and some hay for his horses.

During the winters the Sheep-eaters camped along the streams, down out of the snow. In the spring of 1879 a small band of Indians was camped near the Raines ranch, and during Raines' absence some of the squaws of the band came to the orchard and were gathering the fallen fruit when Raines returned. He did not like the Indians and, it is claimed, used force in driving the squaws from the place. This enraged the bucks, who a few days later lay in wait for Raines and another man, who was helping him put up hay, and, opening fire on the two whites with

old-fashioned Sharps rifles, shot and mortally wounded Raines. He succeeded in gaining his cabin, while his companion, under cover of the dense underbrush, worked his way to Warren, where he spread the news of the killing. A rescue party, made up of miners, returned to the ranch to find the cabin burned to the ground, the charred remains of Raines lying in the smouldering ruins, and the Indians swallowed up by the hills that only they knew. Thus began the Sheep-eater war.

Three detachments of the First United States Cavalry, with a few Umatilla Indian scouts, under command of Colonel R. F. Bernard, were sent into this unknown wilderness after the now outlawed Indians.

There were no trails. Not knowing the country, their scouts were forced to follow the renegades by clever tracking. Many places were encountered where the soldiers

were compelled to cut trails in order to move forward. By their knowledge of the country, the Indians were able to elude their followers with ease. Had the Indians been well armed and under an able leader, such as Chief Joseph, the few troops sent after them would have been wiped out in one engagement and the entire army would have been put to the test to capture or kill them.



THE SHORE OF A HIDDEN LAKE, WHERE ELK AND DEER APPROACH WITHOUT A SIGN OF FEAR AND ONLY THE HALF-HUMAN CRY OF THE LOON BREAKS THE GREAT SILENCE



Proceeding against great handicaps, ambushed on several occasions, forced to retreat under cover of darkness to a mountain where there was no water for the men and where they were forced to drink vinegar to quench their thirst, this small detachment followed relentlessly on the track of the outlaws. After a full summer, a party under command of Lieutenant W. C. Brown found the main band camped near the foot of the mountain mentioned at the beginning of this article. With Lieutenant Brown were twenty Umatilla scouts, seven soldiers, and a pack-train.

They had captured some squaws and their papooses. Holding one of the infants as a ransom, they sent the squaw to her people with instructions to surrender with a promise of fair play. Believing themselves surrounded by the entire detachment of troopers, the Indians surrendered on October 9, 1879. They were taken to the nearest military post, which was Vancouver, Washington. From this point they were returned to the Fort Hall Reservation. Thus ended the last Indian war of our history.

The working out of the placer grounds brought the prospectors into the old hunting grounds of the Sheep-eaters. Many rich mines were located and developed. Principal among these were the Golden Reef and Sunny Side mines, located by the Caswell Brothers near the headwaters of Monumental Creek. The sale of the Golden Reef for \$100,000, the publishing of the account of this sale, with a picture of the check, in the *Idaho Statesman*, together with the news that the Sunny Side had been sold for \$125,000, started the famous Thunder Mountain stampede in the late fall of 1901 and the history-making town of Roosevelt.

Eight hundred and fifty thousand dollars were taken from the Golden Reef mine during the few short years that it was worked. Roosevelt grew to be a thriving town of several thousand. The whole country was literally alive with prospectors and miners. Fortunes were made over night, and some were as quickly lost. Men toiled, and smiled, and died.

On June 7, 1907, a great hillside lying on the bed-rock near the Golden Reef, or Dewey mine (as it had become

known), became saturated with water used in placering and slid into Mule Creek, sweeping before it everything in its path. A churning, seething mass of mud, rock, timbers, and mining machinery, running to a depth of sixty feet, slowly worked its way down the canyon-like valley of Mule Creek into Monumental Creek, where it spread out fanlike, covering a portion of the town of Roosevelt to a depth of thirty feet. It dammed the creek and formed a lake which afterward submerged the remaining portion of the town. Today, all that remains of the once flourishing mining camp of several thousand

souls is a mass of floating debris, with the tops of a few frame buildings protruding above the surface of a placid lake.

On June 3, 1905, President Roosevelt set aside portions of this land, to be known as the Payette Forest Reserve. On June 26, 1908, portions of the Payette and Bitter Root Forests were combined, forming a separate forest, to be known as the Idaho National Forest, consisting of nearly two million acres of virgin forest land. The main Thunder Mountain country, however, was not included in these two forests as originally created. It was deliberately excluded on account of the mining stampede into the town of Roosevelt. Based upon the supposed great mineral wealth of the region, Senator Heyburn—famous for always opposing the creation of a National Forest anywhere—strongly urged that this supposedly rich mineral country be not included. No reservations



A TEAM OF PACK-MULES CROSSING BIG CREEK AT HIGH WATER

were, therefore, made. The mineral riches soon played out, and for a number of years the country has been something of a "no man's land." Not infrequently it has been referred to as "Heyburn's Forest Reserve."

Entirely surrounded by National Forests, protected against fire, this sparsely inhabited back country was a great forest-fire menace. Finally, some years after Senator Heyburn's death, the Idaho legislature, at two different terms, by practically unanimous vote in each House, memorialized Congress to include the lands in the adjoining National Forests, and this was done a few years ago under authority of a special act of Congress. The region is now about equally divided between the Payette Na-

tional Forest and the Idaho National Forest. The word Idaho is Indian and signifies "Gem of the Mountain"—a name symbolic of this, our last, outpost.

Mystery? Yes. If space permitted, I could lead you afar. Take the case of the Salmon River ferryman who left the little cabin on the ridge that winter night, in a blinding snowstorm, for his home, twenty miles away. For years he had traveled this trail. He was a woodsman of the "first water." That is many years ago. To this day he has never been seen or heard from, nor have any bleached bones told the gruesome story of his mishap. There is the story of the school teacher, a stranger in a strange land, who left the river for Thunder Mountain. Being out of funds and following that ever-present call of the yellow metal, he passed the friendly cabin on the trail, wishing, evidently, to make the trip in two days. They found his frozen body on the edge of a creek he never crossed.

On a little level spot on Monumental Creek there is a weather-beaten board bearing the simple inscription "F. J. Smith." There is no date of birth or death. They found him in his tent, beside the trail where he had made his last camp. There they buried him. Who he was, where he came from, where he was bound, no one knew.



DENSE WOODS LINE THE SHORE ABOVE THE ESTUARY OF THE SECESH AND SOUTH FORK OF THE SALMON RIVER

The mountains that drew him to them, that crushed him and left him lifeless in their shadows, stand sentinel over that little weather-beaten board that marks his last camp. He represents one of the many thousands that attempted to conquer this wild and failed.

These are only a few of the many; yet they all spell mystery—the great silence, the unconquerable wild!

Gone is the glamor and gold that once made a thriving, pulsing town of the old mining camp of Warren. In its stead we find a quiet little hamlet nestling in the hollow of the hills, its one memory that of days long gone by. Gone are the Sheep-eater Indians of yesteryear.

Moss and grass grow undisturbed in the tepee holes of their old winter camps. Beavers build their houses in the upper stories of the one-time gambling halls of Roosevelt unmolested, unnoticed. Cabins rotting with age peep out of sheltered nooks along the waterways. Unmarked graves lie along the dim trails of yesterday, upon which the tomorrow of men's dreams never dawned.

True to the legend of the Shoshones, "a shining gem forever resting on a mountain and forever inaccessible," this portion of Idaho has remained. True to the motto borne by the great seal of the state, "*Esto perpetua*"—May it last forever.



ALL THAT REMAINS TODAY OF THE ONCE FLOURISHING TOWN OF ROOSEVELT, WHICH WAS LITERALLY BURIED UNDER A SEETHING MASS OF WRECKAGE FROM THE DEWEY MINE IN 1907

# The New Forestry Act

## *Measure Known as McNary-Clarke Bill, Passed by Congress, Is Most Important Forest Legislation in Many Years*

**A**DVOCATES of a forest policy for the nation won a signal victory on June 7 when President Coolidge signed the measure commonly known as the McNary-Clarke Forestry Bill. The act now stands as the tangible result of five years of strenuous effort on the part of the many individuals and organizations throughout the country who have recognized that forest reconstruction is one of the nation's most important economic problems. The new law forms the groundwork for an enlarged federal forest policy, and in the history of forest legislation in the United States ranks in importance alongside the Weeks Law, enacted in 1911, and the act of February 1, 1905, which rescued the National Forests from the Department of the Interior and placed them under efficient protection and administration by the Department of Agriculture.

Originally introduced in the Senate by Senator McNary, the bill was first passed in the House late in April. It was not reached by the Senate until June 6, the day before adjournment, when it was passed with practically no opposition. The act is authorizing legislation, in that it does not provide any appropriations with which to carry out its nine major provisions. The appropriations authorized unfortunately were not approved by Congress, owing to the late hour at which the measure was passed and the legislative jam which marked the close of Congress. The Forest Service, however, is busy preparing estimates of expenditures under the act, in order that they may be approved by the Budget Commission and presented to Congress when it reconvenes in December. It is anticipated that these appropriations will be voted by Congress and made available, so that actual work under the act can begin early in 1925.

One of the outstanding features of the new forestry act is the section which authorizes the President to establish new National Forests from lands within the boundaries of government reservations, excepting national parks and Indian reservations, where such lands are suitable for the production of timber. Another section which marks special progress is that enlarging the scope of the Weeks Law by authorizing the Federal Government to purchase, within the watersheds of navigable streams, forest lands needed either for stream-flow protection or for timber production. These two sections should be a great stimulus in clearing the way for the enlargement of the National Forests in practically all sections of the country. While most of the unappropriated public lands are now in the West, there are several hundred thousand acres of military reservations pretty generally scattered throughout the United States, and the new act gives the President authority to administer as National Forests such portions of

these military reservations as are not immediately needed for military purposes.

The unreserved and unappropriated public domain, however, provides the greatest opportunity for enlarging the National Forests. It is estimated that the public domain contains between four and five million acres of forest land now under the jurisdiction of the General Land Office, but not under forest administration. These lands have been the storm center of conservationists, because their lack of protection and administration is serving to deplete their forest and forage resources. Under the terms of the Weeks Law the Federal Government has heretofore been restricted in purchasing forest lands to those whose acquisition is needed to protect the flow of navigable rivers, but the new act authorizes the government to buy lands solely for timber production, provided they are on the watersheds of navigable rivers.

Sections 1 and 2 of the act authorize the Secretary of Agriculture to recommend for each forest region systems of forest-fire prevention and suppression, and to co-operate with the states in the protection of timber on forest-producing lands from fire. The amount which the Federal Government may spend for co-operative fire protection in any state is limited to a sum not exceeding that expended by the state for the same purpose. By the third section of the act the Secretary is authorized to study the effect of tax laws and to devise new tax laws, designed to encourage the conservation of timber and to promote practical methods of insuring standing timber from fire. To carry out the three foregoing provisions, the bill authorizes an annual appropriation of \$2,500,000, which sum, used in the co-operative manner required, will be a tremendous impetus to the several states to provide better forest-fire protection.

Under section 4 an annual appropriation of \$100,000 is authorized, to be used by the Secretary of Agriculture in co-operating with the states in the procurement, production, and distribution of forest-tree seeds and plants. Another \$100,000 is authorized by section 5 to enable the Secretary to co-operate with and to assist the owners of farms in the handling of their woodland.

Section 6 of the act refers to the enlargement of the Weeks Law as noted above, while section 7 makes it possible for the United States to accept gifts of forest land, which after acceptance shall become National Forest areas. A specific provision in respect to such lands is that in the sale of timber from them preference shall be given to applicants who will supply the products to local citizens engaged in agriculture.

[Continued on page 414]





LITTLE BILL ROSE ON HIS  
YET UNSTEADY LEGS

## *The Biography of Little Bill Elk*

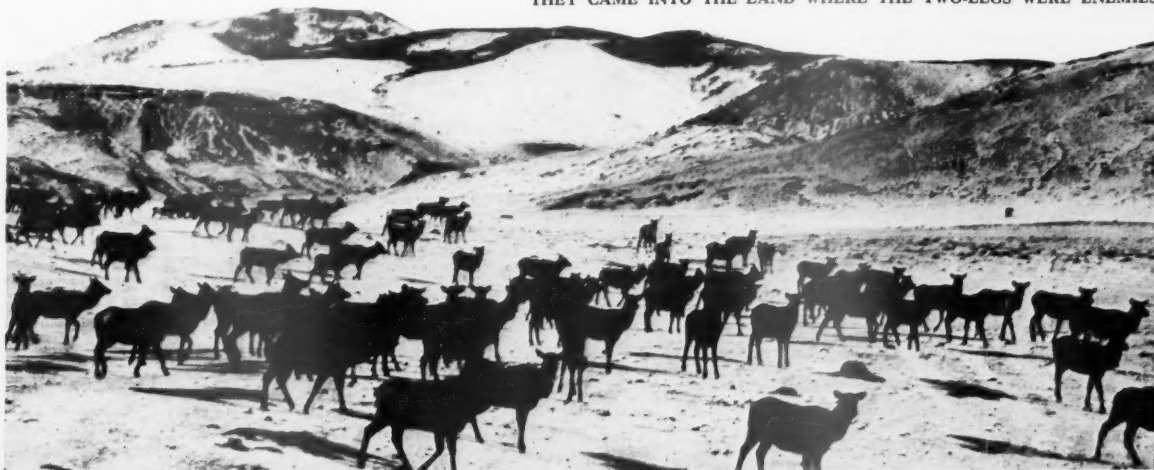
BY FRED MORRELL

**L**ITTLE BILL ELK rose on his yet unsteady legs and thrust his nose forward to test further the space before him. Finding the pleasant, invigorating air not limited to the immediate location of his nose, he ventured his attention on other things without the fear of losing the place from which it came. He began cautiously to explore his immediate surroundings. That meant first a view of the ground at his feet; the shrub of Kinnikinnick beside which he had slept; then the expanse of park land, iridescent with wild geraniums, asters, mariposa lilies, and other wild flowers, making together a riot of colors of blue, yellow, red, and mixtures of them all. Bill noticed the butterflies already abroad and the chicka-

dee, moving with an air of importance and pretended business among the shrubs scattered over the grassy expanse before him, but gave them no careful attention. They seemed all a part of this delightful atmosphere in which he found himself and required no study.

Exploring further, he saw his mother grazing half hidden through the low-hanging boughs of spruce trees that broke across his line of vision down the park space. He had been so absorbed in appreciation of the immediate things that thought of his mother had not yet come to him. He started slightly, as though surprised to find that there were others than himself in this wonderful neighborhood. He saw in the near distance many other grown-

THEY CAME INTO THE LAND WHERE THE TWO-LEGS WERE ENEMIES





FOUND BY THE RANGERS, BUT TOO LATE

ups, and in a moment discerned his cousin, Molly, only ten days older, but very much wiser and stronger than himself, at her breakfast. Subconsciously there came to him the "feel" for his own breakfast, and he moved toward his mother, surprised to find how much more dependable than yesterday were his ungainly legs. Suddenly he stopped short at sight of the shaded knoll to his right turning suddenly bright, and as he looked at it the light broke over his own head. Turning, he saw the great ball of fire that he remembered of yesterday break over the distant mountain, for Little Bill had slept late and it was already sunup.

Breakfast over, Little Bill continued his explorations beyond his immediate surroundings. He listened attentively to the gurgle of the stream that drained the mountain park in which he found himself, saw countless grown-ups on the slope beyond it, and among them many youngsters of his own approximate age. Far in the distance he saw the snow-capped mountains of Specimen Ridge, and to his right heard the rumbling of a larger stream. It was July and Little Bill was in beautiful Yellowstone Park.

In a few days Little Bill's legs had become sufficiently dependable, so he could run without fear of falling. It was a delight to hop over logs and brush, for the very joy of using them. He saw then for the first time some of those strange and fearful people who walked only on two legs and wore funny flapping clothes. Bill instinctively hid from them underneath the bushes, as did the other youngsters. To his surprise, his mother and the other grown-ups

BILL WAS COLD, HUNGRY,  
AND MISERABLE

seemed not greatly concerned at their presence in the park. Before the summer was over, Bill was to see many of these strange people. He found their visits mutually interesting, though his own grown-ups often paid little attention to them. Like all young who are in pleasant surroundings and are kept well fed and warm, Bill found the world in which he lived a wonderful place for exploration and enjoyment. As the days went on, he followed his mother over the surrounding hills, and instinctively he recognized the deer and antelope that grazed in the neighborhood as friends, and the skulking coyote and cat that sometimes crossed his path as enemies, to be watched for and avoided.

Gradually the nights grew colder and the days a little shorter, but he was bigger now and enjoyed the snappy mornings and cool, shady evenings. Even when the sky became overcast and snow came to cover the forage which his elders lived on and which Bill had learned to relish, no one seemed to mind, as his company moved down the slopes to join the "drift" with thousands of others who left the higher slopes and sought the lower country down the valley of the Lamar. Bill went along with his elders, unthinking. He knew that it was the natural and proper thing to do, and that he would do it anyway, if left all to his own devices. To him the moving was a great adventure filled with new sights, new sounds, and new acquaintances—all of consuming interest. It seemed only natural that as they moved leisurely along they should be



BIG BROTHER LAY STILL

joined at each stream junction and from the surrounding slopes by more and still more elk, for this was indeed elk world. To be sure, there were many of other kinds in it, not the least interesting of whom was an occasional one of those people who had come on two legs in summer, but who now were astride a friendly looking other animal, making them less fearsome. These were the park rangers, who rode the country in search of enemies of the elk and watchful that the herd did not come to harm.

The snow became less deep, as they traveled on, and there was much scattering out to graze and make stop of the exodus for the time being. But other snows came and the herd moved on down the river, seeking for the lower elevations, where feed might be had. And then, on a tragic morning while Bill watched one of those two-legged visitors, just visible over a knoll, he saw suddenly a little white cloud appear in front of him, and to his amazement his big brother, feeding near him, stumbled and fell with a cry of anguish. A terrible discordant sound coming from the direction of the two-legged person rent the air. It was all very terrible, and Bill ran as fast as he could for the shelter of the forest, and found the others, grown-ups and young, going with him. But Big Brother, with the beautiful antlers that Bill had admired so much, lay still, and he did not see him again. After that there were more of those terrible noises, more friends missing, and great alarm and uneasiness on the part of the grown-ups, who sought shelter now upon sight of the two-legged people. Seemingly to Bill they



LITTLE BILL LEFT HIS MOTHER ON HER LAST BED GROUND



TWO-LEGS WITH A LION  
HE HAD KILLED



BIG BILL FOUND A LIVING IN THE DEEP SNOW

had come into a land where these people were enemies instead of interested spectators, and they must be hidden from.

And in truth that was it, because they had left the park and had come into a country where hunting was allowed. This lasted, though, for only a short time, and then the Two-Legs ceased to make war upon his relatives and friends. But the nights had turned bitter cold. More snow came, and beneath it the elk found only a little feed. At first Bill did not bestir himself to seek for forage by pawing away the snow like the elders, nor even to follow along the paths that the grown-ups made, and seek for edible plants behind them, as some of the older calves did. He couldn't, as a matter of fact, see that there was any food to be had.

But as the days went on, his mother, who had always been so strong and capable and so solicitous of his comfort and safety, became less and less interested in him. All of her time was now spent on the steep hill-sides in a continuous struggle for food. She grew steadily weaker and thinner. She had little milk for Bill and finally refused him the privilege of dragging at her dry udder at all. He had perforce then to get really at work to find his daily food from under the snow and from the bushes and twigs that were left uncovered. It was desperate work, for there was so little to be had after he worked so hard to paw the snow away. Always some one had been there before, and he found not much but the dry stubs of grass and weeds cropped by domestic stock in the summer time.

More snow fell, and it became packed and hard, so that it was impossible in many places



to break through it to find the little feed that was on the ground. The herd was continually forced down from the higher mountain slopes, and Bill came to know another circumstance—the hardest of all in the fight of the herd for its existence during the bitter winter. As they came down to the Yellowstone Valley they saw many other animals—strange to Bill, but evidently familiar to the grown-ups—grazing contentedly on the level stretches of the valley and the more gentle slopes on adjoining mesas. They were a peaceable and friendly looking tribe, and Bill hastened down from the snow-bound mountain side in the wake of the elders, thinking that at last food was in sight and dully wondering why his mother, whom he knew to be so wise in most things, had not gone to this place sooner. But as he came nearer he saw that the herd was not spreading out to graze over the area, but stopped, flanked along the edge of it, for no apparent good reason.

He was for a while cautious not to go too far forward, but his hunger urge was too strong and he soon worked his way forward through the herd to the front. Then he discovered the reason why the others had stopped. Slender, but impenetrable, steel lines, supported by sturdy posts, barred the way, and not even the strongest of the herd could break through. They stood mute and dejected, with tails turned toward the bitter wind, and Bill shifted his position to one where his mother's body would break the storm behind him and stood with the rest. Some of the young bulls, the strongest of the herd, attempted to crowd through the fence, and one that Bill saw became entangled in it and was unable to extricate himself. He was found there by the forest rangers on patrol, but too late to save him. All day long and on succeeding stormy days, Bill was to see this same dreary, but unavailing, waiting by many of the herd against these iron fences, which never opened. When the weather cleared they would work back to the hillsides and take up again the struggle for food.

There had by now become another continual danger ever lurking in the path of the herd. The mountain lion, whose shrill scream had curdled Bill's blood in the summer, but who had done little killing of elk, now became a daily marauder, pouncing out upon the young and weaker elders of the flock and killing them in the deep snow,

where there was no chance to get away. The coyotes, whom Bill had seen and feared in summer, but who were easily driven off by the mothers, and who mostly sought rabbits, gophers, and young birds for food, came together in bands and, surrounding the calves and sometimes the grown-ups, worked together to wear out and finally kill their victims. Most terrible of all were the timber wolves, who from time to time swept across the winter ranges like a terrible scourge, killing as they chose. The two-legged people, who made the terrible noises, were seen from time

to time, but usually now as the friend of the elk and enemy of their enemies. Bill saw coyotes dead and dying from having eaten food dropped in tempting places by these people. He saw enemies with feet caught in steel grips and often heard the terrible sounds and saw the same cloud that appeared when his brother was killed. But now it was his enemies who suffered from it and he became not so much afraid.

He heard, too, the baying of other animals, evidently the friends of the Two-Legs and the enemies of coyotes, wolves, and lions, and saw them following on the trail of the latter. Once he heard the terrible booming sound again, and after a while saw Two-Legs go over the slope, on his back a dead lion who had killed many of his friends. He saw the Two-Legs, who traveled now on great wide shoes over the top of the snow, help the weak ones in the herd to their feet and tramp down paths in the snow, so they could move about. These were the rangers and game wardens, doing what they could to fight the enemies of the herd and help the elk to find sufficient food to keep them alive.

But snow became deeper and harder. Bill was continually hungry and suffered from the intense cold. He saw many who were unable to rise from their beds on the cold ground, and the dead were scattered over the area where they sought to find food. Finally his own beautiful mother was unable to rise and accompany the herd, as it moved out from the shelter of the trees at daylight to seek food for the day, and he regretfully left her there on her last bed.

Spring came at last. The snow thawed from the sunny slopes and new grass began to appear from under the winter blanket of white. It was indeed sweet to the tooth, but oh! so little of it. Bill's strength continued to



OLD BILL DREAMING OF THE DAYS WHEN HE WOULD  
BE BACK ON THE SUMMER RANGE

wane, and more of his friends became unable to rise and carry on the struggle for existence. He was weak and ill and cared little whether or not he should fall victim to the band of coyotes that still preyed upon the herd. Gradually more slopes became bare, feed more plentiful, and the herd, much depleted, moved up to the higher slopes gaining in strength as they went. They came at last again to their beautiful summer ranges in the park.

During the succeeding winter Bill saw the same scenes repeated. He narrowly missed the fate of his big brother the year before, barely won a fight with the coyote band,

cold, and enemies, and might have survived for several years yet had it not been for one of those Two-Legs, whom one could never learn to know when to trust and when to fear. One of them, dressed all in white, so he could hardly be seen as he traveled over the snow, came upon him on a bright, sunshiny day in spring. Bill stood, dreaming of the days soon to come, when he would be back on the summer range, and was too weak and miserable to attempt to run away. Most unexpectedly there was again that loud report close to him, the puff of smoke, a terrible pain in his side, and he sank down in the snow,

**EDITOR'S NOTE.**—Mr. Morrell's article deals with a game situation in which all readers of AMERICAN FORESTS AND FOREST LIFE will be vitally interested. The preservation of the Yellowstone National Park elk herds is a matter of national importance and is one that cannot be disposed of except through the active and understanding interest of a great many people. Mr. Morrell's article attempts only to picture the situation in a popular way. The author is familiar by personal acquaintance and through authentic reports with the details of the situation as it relates to what is known as the Northern Herd, but he has not attempted in the article to set down what it is necessary to do to bring about the objectives sought. The general program along which federal, state, and other interested agencies have been working for a number of years may be obtained by writing the Forester, Forest Service, Washington, D. C.; Chief of the Bureau of Biological Survey, Washington, D. C.; or the District Forester, Forest Service, Missoula, Montana.

Briefly, the author believes the things necessary, so far as the Northern Herd is concerned, which cannot be accomplished by federal and state agencies without additional action by Congress are:

1. The addition to the Absaroka and Gallatin National Forests of certain lands which were withdrawn from entry under date of April 16, 1917.

2. The acquisition, by purchase, of some necessary private lands within the area which are needed for winter elk range.

and was cold and hungry and miserable. But he was one of the stronger of the herd and survived to move back again to the summer range.

The years went on with much the same experience—delightful summers, with abundance of food, and winters of torture from hunger and cold. Bill had become one of the leaders—indeed, masters—of the herd. He was of the strongest and bore his five-pointed antlers proudly. He did not now go down with the cows and calves to seek food on the lower slopes, but stayed with other bulls in the higher country, plowing through the deep snow and finding a living where the weaker ones could not exist at all. But each year some of the older and weaker bulls succumbed to hunger, cold, and other enemies.

Each spring the returning herd from the lower country was fewer than those who had gone down in the fall. Sometimes the snow became so deep that he was forced to subsist over long periods on bark from the young aspen and twigs from the willows and other shrubs that projected above the snow surface.

He had long ago learned all the tricks known to his kind for taking care of himself against shortage of feed,

unable to rise. Two-Legs came forward, turned his head back, and with a pair of pliers extracted his beautiful tusks, leaving him there to die. His last knowledge was of two other Two-Legs, who came fast on the trail of the one in white and found Old Bill there in his suffering. They helped him to an easier position, and then, with a sorrowful "Good-bye, old fellow!" hurried, cursing, away after the figure in white. It was the ranger and the game warden on the trail of the tooth hunter, most despicable of all the enemies of wild folk.

And so the story of Little Bill, now Old Bill, ended. It is the story of thousands of other Little Bill and Old Bill elks. The tooth hunter has been driven off by the vigilance of game wardens and forest and park rangers. The ravages of the wolf, the lion, and the coyote have been largely diminished by the same agencies; but they cannot make feed grow or stop the snows that cover it in winter. The need is for grazing grounds that are not bound by iron fences, where food can grow in summer and be available for winter sustenance.

And that is another story, which if you are interested I will tell you about at another time.





## A NIGHT OUT

By J. A. LARSEN

"SO YOU had to sleep out on the mountain, eh?" said the small, black-whiskered man in greasy malones, sitting on a rickety bunk in a dingy cabin, all of which bore the appearance of having been struck by a dust-storm and a soap and water famine. "Yes, I slept on the mountain," was my reply, and the man's physiognomy contracted into a broad, sardonic grin which expressed in turn self-assurance, sneer, and superiority in woodcraft. And while my eye took in the sordid surroundings, my mind's eye went back to the ridge top, where I had lain on my bed of pine saplings, beside the large, comforting fire, and watched the sun set in an oriflamme of gold; how that gold gradually melted to saffron and pale yellow, which set the opposite ridge into sharp relief; how that ridge became the blue waves of the Atlantic, rolling peaceably onward and onward, the track of the Spanish galleons, the highway of the *Mauretania* and the *Leviathan*; how the opposite green moun-

tain took on a turquoise, then a deeper bluish green, deepening into a sapphire, and finally a profound rich and mellow Prussian blue, exceeding in its depth and purity all Madonna robes in the galleries of Europe; how this wonderful blue was set against a tender yellow sky which changed by imperceptible grades upward into a faint and delicate halo over the entire world, spent in a soft afterglow; how this world became one black mass, except for the stars which sparkled between the silhouetted trees above me, and how I slumbered on until the first faint tint of dawn began to set the jagged sky-line into relief; how, little by little, innumerable fjords, bays, inlets, headlands, islands, and promontories became discernible, all set in a sea of fog which covered the valley with the little black-whiskered man and his squalid cabin.

"Yes," I said, "I slept out on the mountain, but I did not mind it much." Maybe my face showed traces of pity. I do not know.





# Early American Carving

*Earliest of Imported Crafts Which Thrived upon the  
Abundance of Suitable Woods Supplied  
by Colonial Forests*

By EDWARD B. ALLEN

(Courtesy of "International Studio")

CARVING, the cutting of designs on a plain surface to relieve its monotony, was one of the first crafts brought to the American Colonies, and in richness of effect the work of this time has remained unequaled even by that in the manner of the Italian and French Renaissance and the less frequent Gothic, which has been so popular with architects and interior decorators here in recent years. In the famous Colonial mansions that have come down to us, this carving is one of the most irresistible appeals they make, and of those houses that have suffered most damage in the passing years the carving has been less injured than any of their decorative features. It appears everywhere in these structures—on

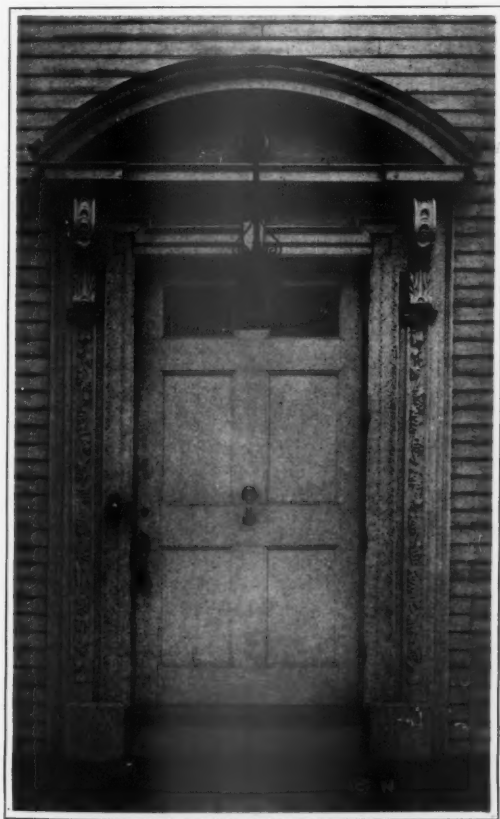
the entrance doors, mantels and overmantels; on the staircases, interior pilasters, newel posts, balustrades, and on those built-in and movable corner-cabinets which were such charming features of the houses of the seventeenth and eighteenth centuries along the Atlantic seaboard.

Colonial doorways are always attractive and artistic, with an infinite variety of design. This is well illustrated in the portal of the famous Dummer Academy at Byfield, Massachusetts, originally built in 1715 as a private residence. It has garlands of grapes, leaves, and stems on flat pilasters on either side; a curved pediment with modillions resting on double curved slender brackets carved with delicate acanthus leaves. There is a fine bit of carving belonging to the Adams period around a doorway in the Cook-Oliver house in Salem, Massachusetts (built in 1799), executed by Samuel McIntire, which is worthy of attention. Above the pilaster on the right side, which is incised in an odd style, is a flower rosette, and over that is a festooned urn heaped with many fruits in high relief. Across the entablature is a graceful drapery, the hanging folds at the ends held up by a bow-knot. Just under the door-cap is an unusual fret, like a bow with double ends. The inside of the doorcasing is covered with slender reeding, the whole effect of the carving being unusually artistic and decorative.

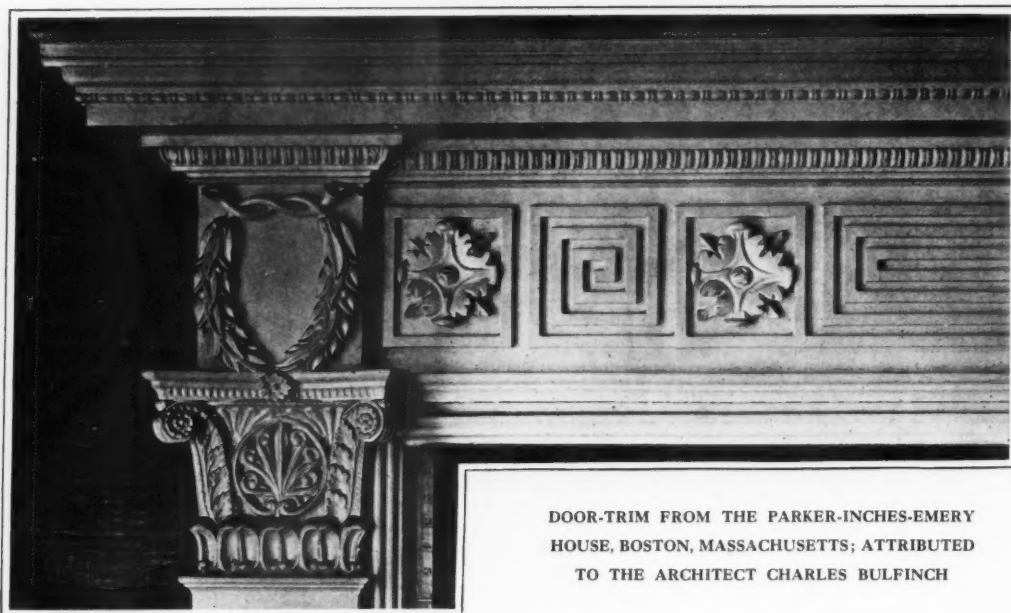
Of the same period is another doorway, hand-carved, and attributed to the great Bulfinch. It is in the back parlor on the second floor of the Parker-Inches-Emery house at No. 40 Beacon Street, Boston, now the home of the Woman's City Club and built at the beginning of the nineteenth century. The general effect of this portal is one of greater boldness of design, the chief feature being the capital, with its pronounced spirals above a row of shell-like figures covered with a leaf motive, between which, within a circle, is a figure of scrolls with twisted



NEWEL POST, TUCK-  
AHOE HALL,  
VIRGINIA; BUILT  
ABOUT 1730



DOORWAY, DUMMER ACADEMY, BYFIELD;  
BUILT IN 1715



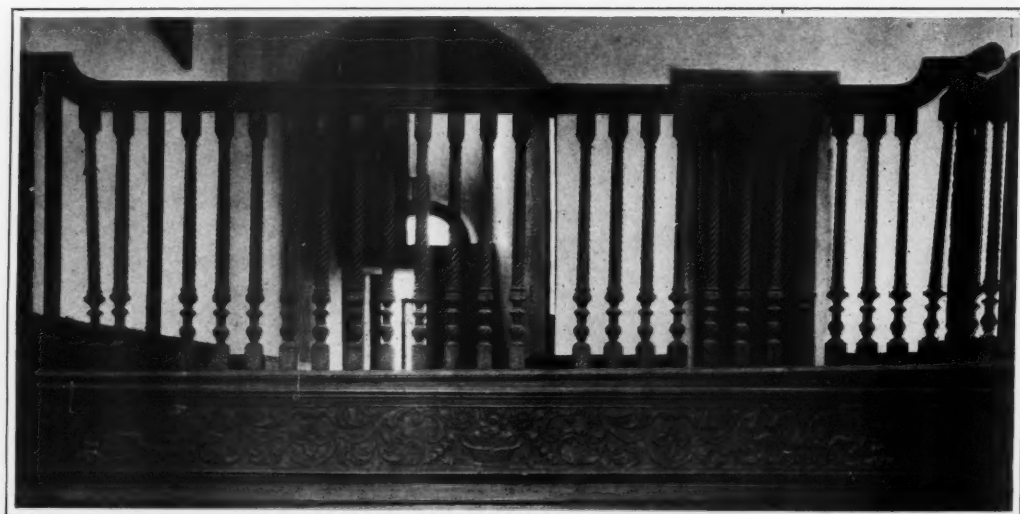
DOOR-TRIM FROM THE PARKER-INCHEMERY  
HOUSE, BOSTON, MASSACHUSETTS; ATTRIBUTED  
TO THE ARCHITECT CHARLES BULFINCH

ends. On the block above is a laurel wreath with looped stems, while across the lintel extend block figures with foliated rosettes alternating with rectangles of Greek frets.

It is in the interiors of these houses, however, that we find the more varied pleasures in the fine carvings on nearly all moldings, cornices, chimney-pieces, and mantels. In the Royall house, in Medford, Massachusetts, which was built in 1730 and facetiously called "Hobgoblin Hall" after being deserted by its owner at the beginning of the Revolution, are some rare examples of carved Corinthian capitals, equally well finished on all sides, even those parts not readily seen. In the Ladd-Moffat house, in Portsmouth, New Hampshire, dating from 1763 and now a museum conducted by the Colonial Dames, is a small panel, in the center of the frieze of a mantel, with roses and leaves carved in high relief, the large rose in the

center of the festooned garland lacking only color to give it the appearance of a living flower. The entire mantel is believed to have been brought from the English home of the father of the builder, Captain John Moffat. The center panel is attributed to the famous English wood-carver, Grinling Gibbons, although it is surmised that it belongs to the school of William Kent (1719-1748). The curved brackets supporting the shelf at either side are decorated with acanthus leaves and all the moldings are covered with minute tracery. Another bit of carving, also attributed to Gibbons, decorates the overmantel in the parlor of the Lee mansion in Marblehead. This consists of foliated tracery and scrolls, hanging garlands with ribbons and bunches of grapes in profusion, its delicacy and naturalness showing the hand of a master.

In Maryland and Virginia the Colonial period left us



CARVED BALUSTRADE, ROSEWELL, VIRGINIA



CARVED WALNUT FRIEZE AROUND A STAIR-WELL, FROM TUCKAHOE, VIRGINIA; BUILT ABOUT 1730

some of the most superb and characteristic examples of the private houses of the time, the interiors of which are a constant delight to the student of wood-carving as applied to domestic architecture. Whitehall, a few miles from Annapolis, Maryland, and which was the home of Governor Horatio Sharpe, has a profusion of carving of

ning with a leaf figure at the center, around which it winds, and extends upward in graceful curves until lost in the narrower lines of molding above. The carving, so legend tells, was done by a young redemptioner sent to the colony, whose condition aroused the pity of the governor, who promised the youth his freedom if he would decorate the governor's new mansion. This he proceeded to do, working long and patiently, until the house was transformed into a marvel of carved beauty in most perfect taste. When the work was done he died from a sudden illness, so that Whitehall represents the lifework of this unfortunate young master carver, who remained unknown, for no one knew who he was or whence he came.

The grand staircase at Rosewell, Virginia, was enriched with a profusion of delicate carved designs executed in mahogany. The frieze of the balustrade at the upper landing is completely covered with a running design com-



CAPITAL IN THE ROYALL HOUSE, MEDFORD; BUILT IN 1730

the highest order, on doors, windows, cornices, and in the dome of the hall. The designs consist chiefly of delicate foliated scrolls, with the tongue and dart motive and fine beading like seed pearls. The design of the window-casing is especially pleasing, ending in a wide oval at the bottom, around which twines foliated scroll-work, begin-



DOOR-TRIM FROM COOK-OLIVER HOUSE, SALEM, MASSACHUSETTS; BUILT IN 1799



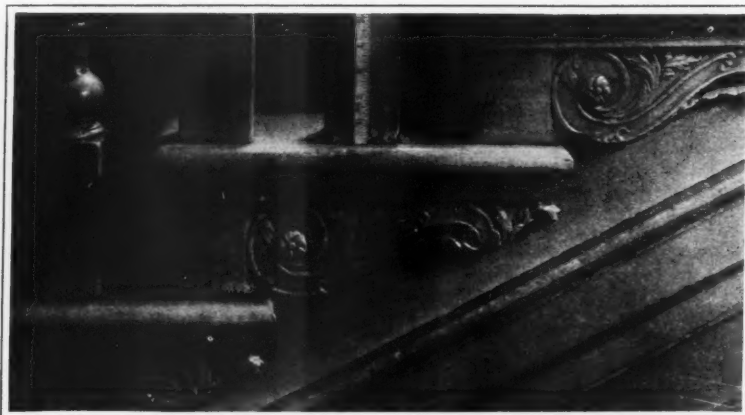
posed of foliated scrolls, branches of husks, and tiny flowers in clusters of three. The small balusters have spiral grooves along the middle of the shaft, but the larger ones instead of grooves have the surface covered with the flowers, leaves, and tendrils of the frieze, twining around its curved surface. This is an unusual style of baluster, probably the only other similar one being the newel post at Tuckahoe, where the same design is seen in larger proportion, with an added Corinthian capital on which rests the curving end of the hand rail. This unique style of baluster links these two houses with the Tudor period in England, because this pattern is practically identical with that carved on the chimney-piece in an Elizabethan mansion at Great Yarmouth, England, built in 1506. Over the frieze of the balustrade of the upper hall landing is a similar design, with a woven basket of flowers for a centerpiece, from which the scrolls, flowers, and tendrils spread to the right and left. At a short distance the frieze has the appearance of a border of fine lace. The scrolled step-ends with rosettes and leaves are another enrichment, which carries the design of the frieze down the staircase, covering all exposed surfaces.

At Tuckahoe the frieze of the upper balustrade is also covered with a foliated scroll design, with a woven basket holding a bouquet of various flowers for a centerpiece, from which the scrolls curve in bold circles to right and left. The stair brackets at Carter's Grove and Westover, Virginia, are also highly ornamented with thistle leaves,

bell-shaped flowers or calyx, tiny starlike flowers, quatrefoil and spirals like those seen on the shells of snails, all gracefully combined. Another very decorative scroll design for step-ends is on the stairway in Independence Hall, Philadelphia.

China cupboards, sometimes built into the walls of rooms or as movable pieces of furniture, were an important feature in houses of the better class. Some had paneled doors enclosing the lower section, with shelves above for the china, with fluted pilasters at each side, the top being arched and having lines of fluting radiating from a figure at the back on a line with the base. These

were sometimes made of pine, but more often of mahogany, a variant from these being cabinets painted white, the lines and fluting being gilded. Even in rooms where the decoration was confined to plain moldings and panels, the scale and execution of their carving warranted attention. The simple panels were splendidly



STAIRWAY CARVING, INDEPENDENCE HALL, PHILADELPHIA

proportioned, both as to size and depth of cut, and cornices, door and window trim, and mantels, although unornamented, were well designed, both in the relation of composing units and to the scale of the room.

These examples reveal how very decorative Colonial carving was, almost always showing the touch of a master hand in design and execution, but it was always only an accessory to the main architectural features, whether of mantel, window, doorway, staircase, or merely a molding, each part graduated to its proper value wherever it was.

### WOODS USED FOR COLONIAL INTERIOR DECORATION

The varieties of wood used for interior finish in these old mansions add to their charm. In New England the wood is principally white pine, when painted, and this wood has proved to be unusually enduring, as many of the buildings made of white pine are now in an almost perfect state of preservation after two hundred or more years of wear and tear and exposure to the elements.

The wide panels, without a seam, used over fireplaces, for dadoes and wall panels, and for flooring, attest the great size of the trees from which they were cut. Some of the larger and grander buildings, especially in the South, were wainscoted from floor to ceiling with mahogany, black walnut, and white oak, left in its natural state so as to show its rich color or its beautiful natural grain, being free from any kind of surface finish, as at Graeme Park, Horsham, near Philadelphia, Pennsylvania.

Hence there was a great variety of color in the interior of the buildings of those days, few of which probably were all white, for painted rooms were sometimes blue, Colonial yellow, gray, green gray, or gray and white combined. In New England, stair rails and sometimes the balusters also were made of mahogany, while the other parts of the hall were painted white or cream.

The builders seem to have had a natural aptitude for decoration as well as proportion, with a wide knowledge of classical details, which naturally took advantage of the many attractive woods in the surrounding forests.—AUTHOR'S NOTE.

# Trees As Court Witnesses

By NORMAN C. McLOUD

**H**ISTORY written by the trees often admits of no dispute. Lawyers may wrangle, but when trees are placed on the witness stand, their silent testimony is difficult to shake.

Trees as court witnesses have recently played an important part in one of the most notable Supreme Court cases of modern times—the dispute between the sovereign States of Texas and Oklahoma as to the location of the State boundary line. Vast property interests were involved in the litigation arising from this famous controversy. Bitter conflict had grown out of the disputed title to valuable oil properties along the line of division, and the strife had taken the form of shotgun sovereignty, with a condition amounting almost to border warfare.

This picturesque combat began with the discovery of rich oil fields in the Red River section of northern Texas. Until the revelation of this store of liquid wealth, a few years ago, the exact location of the boundary line was of no particular interest to either Texas or Oklahoma. With the flow of oil came fierce controversy, not lacking in the elements of armed conflict which marked the days of the pioneers. Claimants to oil lands in the bed of the Red River asserted their rights with the insistence of force, and the authorities of the two States clashed vigorously in maintenance of their sovereign rights over the territory in dispute. Texas rangers were sent into the field, and those familiar with the activities of the rangers will readily appreciate the meaning of a step of this momentous character.

The controversy and the resultant trouble were entirely due to the uncertain habits of the Red River. For 600 miles this wayward and wandering stream has been supposed to establish the dividing line between Oklahoma and Texas. If the river had been willing to remain fixed and let itself be found in the same channel for any length of time, the controversy might not have arisen. The difficulty came from its tendency to wander hither and yon, without regard to the territorial rights of the two States or the property rights of their respective citizens.

The entire length of the river along the boundary was involved, but the dispute hinged on the area known as the Big Bend section, immediately contiguous to the Burk-burnett oil fields. The river in this region may be regarded as fairly typical of the general conditions along its course. On either side the bed of the stream is confined between steep bluffs, approximately 100 feet in height and from a mile and a quarter to a mile and a half apart. The intervening space represents the theoretical bed of the river, but for the greater part of the year the stream is so slight as to occupy but little of this width. In flood times only

does the stream assert its rights to any considerable portion of the domain.

The course of the river is entirely lacking in a sense of permanence. On one map the stream, at a particular point, appears on the Oklahoma side, while on a similar map, made at another time, the thread is shown as having jumped across the bed to the bluffs on the Texas side. To such an extent has the stream shown itself a "jumping river" that the medial line between the two bluffs has had no relation to the actual flow.

When the oil discoveries spread from the original field to the river bed itself, five or six miles away, wells were sunk in considerable numbers on land above the low-water level between the bluffs. The ownership of these valuable wells was the

subject of the dispute which gave rise to Supreme Court litigation. Determination of the exact location of the dividing line between the two States was found essential to determine the ownership of the oil properties. The suit was brought by the State of Oklahoma against the State of Texas, and the United States intervened to protect its own rights in the public domain and to safeguard the rights pertaining to the Indians of Oklahoma. The case went into the Supreme Court as the one tribunal in which there could be adjudication of dispute involving individual States and the Federal Government.

The rôle of the trees was to establish the relative age of the river channel in particular locations. Seeking to show how long certain lands created by alluvial deposits had



Photograph by L. C. Glenn

A VIEW SOUTH ACROSS RED RIVER, SHOWING ELECTRA BRIDGE, BRAIDED CHANNEL, AND SAND BARS, ILLUSTRATING THE BUILDING OF THE RIVER BED BY DEPOSITS

[Continued on page 440]

# OUR OLDEST INDUSTRY

*Wherein Tar and Pine Trees, Wooden Ships and Hardy Colonists, Kings and Black Slaves, Axes and Modern Chemists, Are Flashed upon the Screen*

BY LOUIS E. WISE

WE DO not know just when the tragedy began. Perhaps it started some 300 years ago, when a group of Hollanders and Poles decided that the "pyne" forests of Virginia could furnish the raw materials used in the building and calking of ships. Perhaps it began a little later, when the New England colonies felt it incumbent upon them to serve His Majesty's Royal Navy with "pitche, tarr, rozen, and other naval stores." At any rate, we are certain that it began ever so early in the history of our country; that it has persisted down to the present day, and that now the end of the sordid tragedy is in sight.

Given a seemingly limitless expanse of pine forest; given a group of hardy, short-sighted, and devilishly active pioneers; given as ruthless a campaign of destruction as ever blotted the pages of history, and you have the setting for the development of our time-honored American naval-stores industry (our *oldest* industry), now three centuries of age.

Long before the Revolution the pitch pines of New England had been sporadically exploited. The shipbuilders and sailing masters of old England needed waterproof and protective coatings for their ship bottoms, besides cordage, oakum, and resistant paints. Hitherto these products had come from Norway, Sweden, Denmark, and from the Russian forests. Now the New World offered her wares, and soon the "turpentine resin, pitche, and tarr" began to flow in the colonies of the North. Little attempt was made to introduce frugal methods into an enterprise

"The time has come," the Walrus said,  
"To talk of many things:  
Of seedlings, ships, and sealing wax,  
Of jolly tars and kings;  
And why the turps is running low,  
And whether pines have wings."

(With apologies to Lewis Carroll.)

New England, disappeared, and with them declined the embryo naval-stores industry of the North. This was merely a curtain-raiser for the drama that was to follow.

If in the early years of the eighteenth century an observant visitor had come to North Carolina, he would have noted a growing activity in her longleaf pine forests. He might have seen swarms of black slaves, chattel of the planters of the Carolinas, chopping deep cavities into thousands of splendid pine trees. This strange

woods operation he would have learned, even in those early days, was termed "boxing" the trees for the collection of gum turpentine. He might have watched the black axmen notching out triangular chips above each cavity, deftly chipping off thin strips of bark with their hacks and exposing, as the weeks went by, an ever-increasing area of scarified sapwood. From these wounded faces on the sides of the tree the visitor would have noted the gradual flow of a pleasant oleoresin, the turpentine of commerce, which the negroes later ladled out of the crude cavities into barrels, ready for shipment to the mother country. Perhaps, if the visitor was especially favored, he might have witnessed an occasional primitive distillation of crude turpentine in a metal "alembick," a process which yielded the clear, odorous oil of turpentine, and what was then the waste product, "rozin." The planters seldom waited for



U. S. Forest Service

THE MUTILATION OF A PINE IN GEORGIA. THIS IS CALLED "CUTTING A BOX," A COMMON PRACTICE IN THE PINERIES OF THE OLD SOUTH



the flow of gum into one "box" without cutting an additional cavity into the other side of the same tree. Patience was not one of their few virtues. After several years of overboxing and chipping, with occasional ground fires, the flow of turpentine would naturally stop. Decay in the sapwood would then set in and the tree would fall. An observer could hardly fail to notice that a goodly portion of the heartwood of the longleaf pine actually defied fungal attack. The high resin content imparted this remarkable resistance to the wood, made it a highly prized fuel, and gave it those properties which permitted its conversion (in the crude sod-kilns of that day) into the tar and pitch used by the English sea-dogs.

The history of naval stores in New England was repeated in North Carolina on a greatly magnified scale, where the magnificent pine areas were literally overrun by the tar-healers, who squandered them without a thought for the morrow. Tar soon became the life blood of the Carolinas. Pitch became the medium of exchange. When silver was scarce in the provinces, and this was normally the case, tenants paid their land rents in good pitch and tar. Sometimes, however, lawless tar-burners forgot to pay any quit-rents for the lands on which they carried out their destructive trade, and not infrequently the words "good pitch and tar" must have caused more than a little merriment among these inland pirates; for we fear that some of the planters instructed their slaves to run tar from their crude kilns into open ground drains, where the black distillate collected plenty of water, dirt, and sand—adult-erants that later found their way into the barreled product. We must admit that adulteration and carelessness in kilning and packing and lawlessness in regard to rentals were



U. S. Forest Service

THIS IS THE SCIENTIFIC MODERN METHOD OF  
EXTRACTING TURPENTINE—THE HERTY CUP IN  
OPERATION



U. S. Forest Service

MAN'S INHUMANITY TO TREES. GREAT LONGLEAF PINES LAID LOW AS  
A RESULT OF "BOXING." WEAKENED AT THE BASE, EVEN A SLIGHT  
STORM SENDS THEM CRASHING TO THEIR DOOM

summarily punished, but the wasteful crude methods of turpentine and tar-making went merrily on. Decade after decade North Carolina led her Southern neighbors in the slaughtering of the pines. Decade after decade she recovered an ever-increasing flood of naval stores. Until the early part of the 19th century, tar and pitch remained her important products. Gum turpentine was collected, but in this country little of it was separated into rosin and turpentine spirits. Most of it was shipped to Europe and distilled abroad.

Gradually, however, the complexion of the industry changed. Paint and varnish makers demanded more and more turpentine oil as a "thinner" for their products; the rubber industry required turpentine as a solvent; alcohol-turpentine illum-

inants came into vogue; manufacturers of woolen and cotton goods began to use turpentine to prevent the running together of the colors used in printing their fabrics. Thus the domestic production of spirits of turpentine by the distillation of gum turpentine was largely stimulated. The greater part of the rosin which accompanied the "turps" continued to be little better than a waste until it became profitable to manufacture the rosin soaps, which were used both in the laundry and the paper industries, and the metal resins, certain of which hastened the drying of varnishes and others of which found an outlet in the production of ceramics.

Quite naturally the prestige of pitch and tar in the naval-stores industry began to decline and the production of gum turpentine took on a new aspect. This industrial change brought no

respite to the forests of North Carolina. The dawn of the 19th century found that state still in the lead in naval stores. With the advent of the civil war, she was supplying well over two-thirds of the crude turpentine produced in the United States. In the year 1880 she stood at her zenith, with thousands of casks of turpentine and hundreds of thousands of barrels of rosin leaving her great port of Wilmington.

Then came the first signs of dissolution. Seed trees had never been fostered; second growth had never been protected or encouraged. The end came soon enough. In 1900 the production of turpentine in North Carolina had dwindled greatly. In 1920, to all intents and purposes, it had ceased to exist!

What need of following the naval-stores tragedy into the other states of the South. Secretary Meredith, in his report to the Senate in 1920, outlined the situation in a way that must challenge the attention of every thoughtful citizen. "The naval-stores industry of the South," he said, "has migrated from state to state, following the timber. South Carolina has been practically abandoned by the industry for more than 20 years. In from four to six years, under present demands, Georgia will take its place with North and South Carolina as an insignificant factor in production. \* \* \* Florida has been the

mainstay of naval-stores production during the past ten years, but the end of its supply is definitely in sight. Much of the longleaf pine and slash pine of Alabama has already been worked. \* \* \* Mississippi will show an increase in production during the next four or five years. The timber, however, both here and in Louisiana and Texas, is largely owned by lumbermen, who will force a rapid exploitation for naval stores in order that lumbering may not be delayed." And so it goes. Only in a few sporadic cases has natural reproduction of longleaf pine

been encouraged. Only within limited areas have practical men co-operated with technical foresters in protection against fires, razor-back hogs, and the inroads of grazing cattle.

Light comes into this dark picture by reason of the good deeds of the chemist in trying to conserve the Southern for-



H. H. Chapman

KEEP OUT RAZOR-BACK HOGS AND FIRE AND THIS IS THE RESULT.  
TAKEN IN A STAND OF NATURAL REPRODUCTION OF LONGLEAF PINE IN  
LOUISIANA

ests and their industries. Some twenty years ago the name of Charles H. Herty, then professor of chemistry at the University of Georgia, became closely identified with American naval-stores production. As a student in Germany, he had been stung by the European taunt that American turpentine production was a *butchery* rather than an *industry*, and Herty's personal observations, on his return to America, quickly convinced him that the same wasteful methods of turpentine-orcharding had actually persisted from generation to generation, in spite of the many local attempts made to improve them.

With infinite patience the young professor proceeded to map out a number of experiments in the pine forests of Georgia. Working alone and discounting the indifference of the naval-stores operators of the old school, Herty collected enough preliminary data to gain the confidence of a few progressive men. In 1902 he received the enthusiastic support of Gifford Pinchot, and a year later, as expert for the U. S. Bureau of Forestry, he published his famous "Bulletin No. 40," which later really revolutionized the turpentine industry. In this publication all the evils of the old "box system," the system of crippling the tree by chopping a deep pocket into its trunk, were systematically and calmly reviewed.

Herty showed how the vitality of the tree as a producer

of oleoresin was lessened, how wasteful were the methods of collecting the gum turpentine, and where the losses occurred. He showed, further, how trees which had been injured by boxing were readily killed by wind, fire, wood-destroying fungi, or insects after the actual turpentine operations had ceased. All the weaknesses of the superannuated method were laid bare. Then Herty offered his panacea. In place of the "box," two thin little metal gutters, diagonally fixed to the exposed face of the tree, would lead the resin exuding from the scarified tissue directly into a suspended earthenware cup that resembled a flower-pot! A remarkably simple remedy, but one which showed all the earmarks of true genius, since it furnished the possibility of changing an industry without setting it topsy-turvy.

Herty's cup method demanded no newly acquired skill on the part of the negro laborer in the turpentine camp. It required few new tools and no new operations in chipping (or scarifying) the face of the tree. The inexpensive equipment used could be very readily put into place and as readily removed. The trees received the minimum injury and the naval-stores operator received an immediate, increased profit!

The simplicity and feasibility of Herty's method were so clearly demonstrated that most operators gradually abandoned the antiquated "box" for some form of the "cup" system. This general adoption, however, could not of itself perpetuate the naval-stores industry of the South. The reproduction of longleaf pine was not encouraged, and under these conditions neither Herty's modification nor any other change in the technic of turpentineing could really save the industry for some of the Southern States. However, Dr. Herty's work had a most salubrious effect. It brought to the practical naval-stores operator the knowledge that time-honored customs are not necessarily the most efficient, and that a

college professor is not always a dead loss to a grandfather industry.

Furthermore, Herty's results stimulated other chemists, and during the past decade the scientists of the Forest Service have made signal contributions to the naval-stores industry. They have made studies of the chemistry of the oleoresins of pines growing beyond the confines of the Southern States, and have shown the possibilities and limitations of obtaining turpentine in the future from the Western yellow pine of Arizona and California. They have also shown that such pines as lodgepole and sugar pines could not be profitably tapped for oleoresin, and that

Jeffrey pine and the digger pine in California yielded an oily exudate which was chemically very different from gum turpentine.

The proper utilization of the lightwood and old stumpwood littering the sites of former turpentine operations also proved a fascinating field for investigation. These decay-resist-

ing waste woods still contained very large amounts of resinous substances, some of the old stumps carrying as much as 40 per cent of resin. The recovery of the so-called wood rosin and wood turpentine (in contradistinction to the corresponding materials obtained from the living tree) occupied the attention of a number of chemical engineers. Destructive distillation of such woods by methods greatly improved since the old slave days have resulted in the production of very fluctuating amounts of turpentine, pine oil, oils of tar, tar pitch, and charcoal, all of which now enjoy widespread uses in various industries. In general, chemists have found that the higher the resin content of the waste wood, the greater will be the

yields of the oily products; and distillers have been guided accordingly.

Needless to say, by destructively distilling waste longleaf pine the wood rosin is not recovered as such and the wood fiber itself is destroyed. Other methods, however, known in the industry as "steam

**T**HE earliest mention of the naval-stores industry of the New World is in an old manuscript bearing the date of 1610 and now preserved in the Public Record Office, London. It embodies "instructions for such things as are to be sent from Virginia." Among them is the following:

"Pyne trees, or firre trees are to be wounded wthin a yarde of the grounde, or boare a hoal wth an asar the thirde pte into the tree, and lett yt runne into enye thinge that mave receyue the same. and that wch yssues owte wilbe Turpentyne worthe 18<sup>l</sup> Tonne. When the tree beginneth to runne soltelye yt is to be stopp'd vp agayne for prserveinge the tree."

"Pitche and t're hath bene made there and we doubte not but wilbe agayne, and son: sente for a sample, your owne tournes beinge firste served."



H. H. Chapman

THE HOPE OF THE SOUTHERN PINERIES. YOUNG LONGLEAF PINES UNDER PROTECTION, GETTING A FAIR START



distillation and solvent extraction methods," have given the chemist an opportunity to demonstrate his skill as a real conservationist. The methods depend on the removal of wood turpentine and pine oil from stumpwood by means of steam. Subsequently the wood rosin is extracted with gasoline, which can be recovered by distillation and used over again. The wood remains behind and furnishes a splendid possibility for the manufacturer of kraft paper pulp, since pine wood is an ideal raw material for this industry.

The chemists, with their waste-wood extraction and distillation, have given a new lease of life to the old turpentine orchard, with its jagged stumps and lightwood

trash. Their products have been of service to the miner and to the hospital nurse, since pine oil (obtained together with the wood turpentine) has been widely used in ore flotation as well as in the production of disinfectants and antiseptics. They have lent hope of an excellent raw material for the paper-maker. They have produced a turpentine from dead wood that has become a worthy industrial rival of the turpentine supplied by the living tree.

Here in a nutshell is the part played by the chemist in seeking to reshape the destiny of a spendthrift industry. The future should show whether or not his efforts have been in vain.

## TO "KEEP HER MEMORY GREEN"

THE memory of Mrs. Russell Sage, rightfully called the foremost woman philanthropist of the world, was recently honored by the planting of an oak tree near the Rocking Stone, in the New York Zoölogical Park. The program was under the auspices of the New York City Federation of Women's Clubs, and a eulogy was delivered by Dr. William T. Hornaday, as part of an



PLANTING THE MARGARET OLIVIA SAGE MEMORIAL TREE

impressive program. It will be remembered that Mrs. Sage, who loved the birds, was the donor of the Sage Game Sanctuary at March Island, Louisiana, and the foremost founder of the Permanent Wild Life Protection Fund. Her generous gifts were bestowed wisely, in the field of science, art, literature, education, and welfare of humanity, and this tree-planting indicates the desire of those who knew her to "keep her memory green forever."

## CLARENDON PLANTS A "MOTHER'S TREE"

MOTHERHOOD and what it symbolizes were honored at the dedication of the tree planted by the Woman's Civic Club of Clarendon, Virginia. The tree was planted on the Court-House grounds and the ceremony was under the direction of the Town Beautiful Committee of the club, Mrs. S. B. Detwiler, chairman, presiding. The invocation, by Rev. C. P. Ryland, was followed by a cornet solo, "Silver Threads Among the



### CLARENDON'S TRIBUTE TO MOTHERHOOD

Fourteen tiny girls brought white flowers and laid them at the base of the tree.

Gold," by Corby Scioli, of Fort Myer. Dr. Walter A. Morgan, pastor of the Mt. Pleasant Congregational Church, made an impressive address, and the tree was planted by Mrs. Laura Virginia Walsh, of Clarendon, who used the spade with which the original "Mother's Tree" was planted last year in Pennsylvania, now the property of the American Forestry Association. A beautiful stone marker, bearing the date of the planting, was unveiled by Mrs. N. Rex Hunter, president of the Woman's Club.

# Outdoor Recreation Flashes into National Importance

## *Leaders from All Parts of the Nation Meet at Washington and Organize Permanent Body for Action*

"AMERICA is the great American heritage. We must make it a land of vision, a land of work, of sincere striving for the good; but we must add to all these, in order to round out the full stature of the people, an ample effort to make it a land of wholesome enjoyment and perennial gladness." In these words President Coolidge expressed the keynote of the National Conference on Outdoor Recreation which convened in Washington on May 22, and, judging from the enthusiasm of the three hundred and odd delegates who attended, the country at large will be helped measurably in this effort through the permanent organization which was effected.

Chauncey J. Hamlin, of Buffalo, New York, was elected chairman of the permanent organization and John C. Merriam, head of the Carnegie Institution, was elected vice-chairman, George Scott, of Chicago, treasurer, and Vernon Kellogg, formerly of Leland Stanford University, secretary.

The President's original committee, consisting of Secretary Weeks, Secretary Hoover, Secretary Work, Secretary Davis, Secretary Wallace, and Assistant Secretary of the Navy Roosevelt, was continued in the permanent organization as advisers to the newly formed conference.

An advisory council of not to exceed 100 men and women is to carry on the work started at the recent conference. From this number eleven were chosen as an executive committee. These eleven are: Chauncey J. Hamlin, John C. Merriam, Vernon Kellogg, George Scott, Walter F. Martin, Mrs. Jane Deeter Rippin, Mrs. John D. Sherman, John Barton Payne, Charles M. Sheldon, George Shiras, 3rd, and James E. West.

Following the first meeting of the executive committee, Mr. Hamlin made the following statement:

"The executive committee, after carefully reviewing and canvassing the field of outdoor recreation and the various existing national organizations which have been devoting their efforts to various phases of the subject, announced the following declaration of policy:

"The Advisory Council of the National Conference on Outdoor Recreation believes that it is not its function to take over the exploitation of any part of the field of outdoor recreation, but rather to support, indorse, and seek assistance from the various national organizations already at work in this field.

"Pursuant to this policy, announcement is made that by resolutions duly adopted the following national organizations have been readjusted to undertake certain fact-find-

ing surveys which appear to the committee as fundamental to any carefully formulated national plan for outdoor recreation:

"The Playground and Recreation Association of America has been requested to undertake a survey of county and municipal parks, forests, playgrounds, water and other reservations.

"The National Conference on State Parks has been requested to undertake a survey of state parks, waters, forests, and other reservations.

"The American Forestry Association and the National Parks Association have been requested to appoint a joint committee to undertake a joint survey, through their organizations, of the federal parks, forests, reservations, and other public lands and waters.

"The American Association of Museums has been requested to undertake a survey of the contributions that can be made by the natural history museums of the country in the field of outdoor recreation and conservation through teaching an understanding love of nature.

"It is the intention of the Advisory Council to request other national organizations to make similar surveys in the field of the social significance of outdoor recreation in its relation to child life, health, industrial workers, rural recreation needs, athletic games and sports, etc., and also in the field of the value of natural resources to outdoor recreation with particular reference to forests, game and fur-bearing animals, fish, birds, plants and flowers, waters, etc.

"It is believed that through the close co-operation of such private agencies and government agencies—federal, state, county, and municipal—it will be possible eventually to evolve a national plan for outdoor recreation in which each agency, public and private, will have and play its part, to the end that our country will be a happier, healthier place in which to live, and that opportunity may be open to all to gain abounding health, strength, wholesome enjoyment, understanding and love of nature, good-fellowship, and keen sportsmanship. Such opportunities will tend to the formation of that sturdy character by developing those qualities of self-control, endurance under hardship, reliance on self, and co-operation with others in team work which is so necessary to good citizenship."

Strong resolutions were adopted on some fourteen phases of the outdoor recreation question, and while space will not permit a complete report of these resolutions, aptly referred to by Chairman Roosevelt as "our confes-

sion of faith," those which will be of special interest to the readers of *AMERICAN FORESTS* AND *FOREST LIFE* are printed below:

#### FEDERAL LAND POLICY

"WHEREAS it seems desirable to express the opinion of the conference regarding the primary function of the two major governmental agencies naturally touching the field of recreation, namely, the National Park Service and the National Forest Service; Therefore be it

*Resolved*, That the conference express its approval of the historic and popular belief that the National Parks system consists of permanent national reservations protecting inviolate those wonderful or unique areas of our country which are museums, representing the scenery and principal natural features of the United States available in our great heritage of animate and inanimate nature.

"That these parks must be protected completely from all economic use; that their scenic qualities should represent features of national importance as distinguished from those of sectional or local significance, and that they must be preserved in a condition of unmodified nature.

"That laws should be provided which will furnish an administration as nearly uniform as possible throughout the National Park system.

"That the conference express its approval of the statement that National Forests are areas set aside to protect and maintain, in a permanently productive or useful condition, lands unsuited to agriculture, but capable of yielding timber or other general public benefits; and that all resources of National Forests, including recreation, should be developed to the greatest possible extent consistent with permanent productivity, in such a way as to insure the highest use of all parts of the area involved.

"That the council respectfully calls to the attention of the President's Conference the fact that recreation in the National Forests may be better served by such adjustment of both state and federal laws and of responsibility for their execution that the Forest Service can administer effectively the wild life of the forests and protect isolated gems of scenery such as may naturally fall within the forests.

"AND WHEREAS, in the judgment of this conference, valuable recreational resources in the public domain are rapidly being lost to public use: Therefore be it

*Resolved*, That the attention of the Federal Government be called to the need for a careful survey of all available resources of the publicly owned lands, in order that we may secure adequate information regarding recreational facilities of such areas.

"That the Federal Government be requested to give consideration to the administration of such areas of publicly owned lands as are found to have special importance by reason of their availability for recreational purposes.

"That the President's Conference respectfully call to the attention of the Federal Government the fact that in determining the administration of recreational areas on publicly owned lands it is desirable to recognize

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## HEADS BIG INDUSTRY

**M**R. FRANK G. WISNER, of Laurel, Mississippi, the new president of the National Lumber Manufacturers Association, is an advocate of reforestation and of a consistent national forestry policy. Mr. Wisner is essentially a creator and a builder. He has been affiliated since 1897 with Eastman, Gardiner & Company, lumber manufacturers at Laurel, and within that period he and his associates have built up large commercial and financial institutions and have converted a partial clearing in the forest, the site of a small



FRANK G. WISNER

New President of the National Lumber Manufacturers Association.

lumber mill and a few shacks, into one of the most substantially built, attractive, and modern small cities of the South.

The National Lumber Manufacturers Association is a federation of fourteen regional lumber and timber associations and, as the national spokesman of what is altogether the leading manufacturing industry of the United States, occupies a high place in the American industrial world. It is a very active association and the president's job is no sinecure.

One of the big tasks before Mr. Wisner is that of directing the inauguration of national lumber standardization, which becomes effective July 1.



# The Call of the Trees

## "Old Doc" Succumbs to Nervous Vacation

BY JEANNETTE BASKERVILLE

THE slanting rays of the rising sun were making the bold, bare rocks on the top of Old Baldy glow like a parapet of gold. Below, all was dark, with the dewy mystery of forest-clad hills piled one above the



JERRY AND GYP

other in giant-like steps up to where Old Baldy sat King of the Ozarks. In the valley far below, the little village was rubbing its eyes and waking up for another long, lazy, delightful day, such as only the forest-clad hills of the Ozarks can produce.

From out among the pines which almost concealed his rambling white house, Old Doc Waters drove in his low wagon, with its widespread umbrella. On the seat beside him sat his dog Dusty, a pal any man would covet. His ears were pointed in expectancy; he could whip any dog on the street and he knew it. How he wished one would show up, that he might begin the day in triumph! As Old Doc urged gray Dolly to a trot, his face shining with the joy of being alive, he broke into song with

a roar which woke the echoes in the hills: "Praise God, from whom all blessings flow."

"Here, Doc, you old sham! Waking us up with that old foghorn of yours. Sounds like you had nervous prostration," I called to him, as he jogged by so gayly.

"Whoa thar, Dolly! Say, boy, you've got the wrong handle to that word. It's nervous *vacation*, an' I've got it! I'm takin' to the hills—goin' back to Nature to be healed," and his hearty laugh startled the waking robins. "I'm goin' campin', yes, suh! Dolly, Dusty, an' me are off to the hills for a three weeks' camp over thar on Old Baldy," and he pointed with the hickory stub he used to hurry old Dolly—"thar, in that notch in the hills. Thar's where the water comes roarin' out from his stony insides, cold as ice. Thar's where the fish air leapin' 'mong the rocks, where the birds air singin', where the squirrels air barkin.' Yep, I've got a nervous vacation! Jerry an' Gyp air comin' on the commissary wagon, with the tents an' fixin's. I'll look fer you over. G'long Dolly!" and with a gentle prod of the hickory whip old Dolly woke up and the wagon rattled down the waking street, disappearing in the woodsy road just as Jerry and his dog came into view with Old Doc's "commissary wagon." A wide grin on Jerry's freckled face told of joy in the making, while Gyp, a Collie mixture, racing ahead, gave short sharp little barks of joy, as he scattered the frightened hens from the street.

Once more Old Doc had locked up all his medicines and his cares and responsibilities in his little drug store and had answered the Call of the Trees. This time, however, he had left the key with the postmaster. "In case somebody *thinks* they're sick an' must have quinine or calomel. These days, a feller is sick or well, just as his *mind* says," Old Doc had remarked with a chuckle as he handed the

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"OLD DOC," DUSTY, AND DOLLY START FOR THE CAMP

# How to Build a Camp Fire

By E. G. CHEYNEY

ONE morning, as we were sitting on the porch of our cabin in the forest, a man drove by with his family. It was evident from the baskets in the car that they were bound for a picnic in the woods. The days had been clear and hot for several weeks and the ground was dry as tinder. This morning there was a good breeze to give some relief from the continued heat, but the sun shone fiercely.

In about two hours this same man, who had driven by so happily, ran up to the house in a great state of excitement. His coat was gone, his shirt was burned in patches, his eyebrows were singed, and he was covered with soot and dirt. The perspiration was streaking his smoky face with little muddy streams.

"Come help me quick!" he shouted. "I started to cook lunch and I've started a disaster."

We grabbed some shovels and hurried out with him. He had certainly started something. His cooking fire, a much larger fire than there was any necessity for building, had been built too close to some dead grass, and before the poor man had realized what had happened the breeze had whipped the flames into the timber and the fire

was instantly beyond his control. He had done his best, ruined a suit of clothes, and burned himself quite badly; but, with no tools and no experience, he was helpless. We quickly set to work with the shovels, digging a shallow trench around the edge of the fire and throwing the dirt in on it. It was not so bad when we started on the side of the fire, but as we worked our way around in front of it, the heat was fierce and the smoke from the burning brush almost suffocated us. For a while it looked as

though we must be driven out, but we managed to stick to it and succeeded in getting across the front of it. We had won the fight. There was nothing more to do but trench along the side and put out the back of the fire, which was burning slowly against the wind.

We put it out, but that carelessly built little fire had cost three of us an hour and a half of the hardest kind of work. It had burned over an area of ten acres and it might very well have burned over the whole forest if we had not been there to help him. It had killed a dense stand of young ten-year-old pine over the whole area and left the ground bare and black.

That was ten years ago. Today that burn is as clearly

## *Right Again, Judge!*

"No matter how hard it is to secure water; even if you have to carry it all night in a thimble, you should put out your camp fire when you're in the mountains," said Justice J. B. Cox, of Corona, as he gave A. B. Crawford, of Long Beach, a stern lecture and fined him \$50 for leaving a camp fire burning in Trabuco Canyon. Crawford had explained that he had no water and had tried unsuccessfully to quench the fire with the juice of crushed and cooked vegetables.



THE RIGHT TYPE OF CAMP FIRE FOR COOKING. THE EDUCATION OF THIS YOUNG CAMPER IS STARTING EARLY, BUT IT IS NEVER TOO SOON TO START INSTILLING AN APPRECIATION OF THE USE OF FIRE IN THE WOODS

marked as it was that Sunday morning. All around it there is a solid stand of pine twenty feet high, but the weeds came up in a dense mat amid the dead saplings on the fire area and only now are the seedlings beginning to gain a slight foothold. The marks of that little fire will be there for half a century.

Probably the next time that man builds a fire to cook his lunch he will do as two old woodsmen did one day last summer. They went out with a large crowd of men who were not used to camping. When lunch time came these greenhorns built three large fires to cook their little meal. Fortunately, the woods were so wet that there was little danger, but the fires were so large that no one could get near enough to cook anything for some time.

The old woodsmen were so amused that they decided to try an experiment. They decided to try to cook their meal without getting up. One of them went to get their steak and roasting ears from the pack and brought back with him a single stick of wood four inches in diameter. With this as a back log, they built a tiny fire of leaves, twigs, pine needles, and old pine cones collected from where they sat. The whole fire was not over a foot in diameter, but it broiled two large pieces of steak and roasted four ears of corn. Nor was all the fuel exhausted. There was plenty of material left within reach to have cooked another meal. When they had finished eating, some of the

others were just talking of getting near enough to their fire to broil their steak.

They had built a sensible kind of fire for cooking.

There was no time when it could not have been squelched with a cup of coffee or stamped out with the foot. It was practically impossible for it to get away. There was not enough heat from it to be uncomfortable. It could be used as soon as the first twig had caught fire. It did its work in half the time of the larger fires, and there was scarcely any scar on the forest floor where it had been.

A similar fire is very often the best kind for keeping warm, when there are only one or two people. Sometimes, however, a larger fire is wanted for a council fire or where there is a large crowd to warm. Such a fire can be safely handled with the proper care, but it should never be built near any inflammable dry grass or

brush or where there is any peat in the soil, and the ground should be raked bare in a broad band around it. If the woods is very dry, a bucket of water should always be kept handy, to be on the safe side. A spark may start a fire unexpectedly anywhere.

No matter whether the fire is large or small, it should be completely extinguished before it is abandoned and the ground thoroughly soaked for a space around it. Never leave a fire till you are absolutely sure that it is completely dead. That is the way the woodsman does it.



THE RANGER SHOWS THE SAFE METHOD OF EXTINGUISHING A CAMP FIRE—PUT IT OUT AND THEN BURY IT

## The Call of the Trees

[Continued from page 411]

key over to Silas, the postmaster. The evening before, we had sat in front of his little store, discussing his projected trip.

"No, Ma Waters won't go campin' with me no more," he said in answer to my query. "Not since the diamond back curled up on her feet to keep warm." Painstakingly filling his old corncob pipe and lighting it, he leaned back in his homemade hickory chair, smoked in silence awhile, and then resumed the tale.

"It sort o' shocked Ma to wake up an' find that old rattler so intimate like, an' I reckon she wriggled her toes; so he rattled an' was coilin' to strike, when Dusty heard him an' landed on the back of his neck somethin'

fierce, an' put him where he wouldn't scare Ma any more. No," he said with a sigh, "Ma won't go campin' no more; an' she is sech a good camp cook an' had sech good times visitin' the babies of the hill folk. But Dusty gets the best eats goin' from Ma jest fer that one act.

"I took Ma over to the railroad this mornin' an' put her on the train fer Springfield. Bob, our youngest, lives thar. He's one of them city doctors—a real doctor, too. But say, darn you, he's got two boys that Ma says are worth more than all the hills in the Ozarks." And the pipe was forgotten, as his kindly blue eyes glowed with pride at the thought of his grandsons in the city.



## The New Forestry Act

*[Continued from page 392]*

Section 8 empowers the President to add such public lands, as the National Forest Reservation Commission shall determine to be chiefly valuable for stream-flow protection or for timber production, to existing National Forests, and the final section of the act gives the President, in his discretion, authority to establish as National Forests land within the boundaries of government reservations other than national parks, national monuments, and Indian

reservations. Such lands must, however, be suitable for timber production, in the opinion of the Secretary of Agriculture and the Secretary now administering them. In the event lands reserved for military purposes are selected, they shall remain subject to the unhampered use of the War or Navy Department. No appropriations are authorized for the last four sections of the act. [The act is printed in full on page 431 of this issue.]

## Other Bills Won and Lost

**I**N ADDITION to the forestry act reported above, the Sixty-eighth Congress passed a number of bills dealing with forests and related subjects and left unpassed a number of exceedingly important ones. Of special interest is an increase in the Weeks Law appropriation of \$350,000. This item is carried in the regular appropriation bill for the Department of Agriculture in the sum of \$800,000, which was agreed upon in conference and accepted by the two houses. The present appropriation under the Weeks Law amounts to \$450,000. Senator Lodge's bill, to authorize Congress to appropriate \$3,000,000 annually for a period of five years for the purchase of forest lands under the Weeks Law, failed of passage.

Additional money for forest research in the South and the Pacific northwest was provided by the regular department bill, which added \$25,000 to the Southern Forest Experiment Station and a like amount to the Northwestern Forest Experiment Station. On the other hand, there was a cut in the appropriations for forest-products research amounting to about \$18,000, of which the Forest Products Laboratory at Madison will have to stand a cut of some \$15,000.

The Upper Mississippi Wild Life Refuge Bill was passed in the final avalanche of legislation, but in somewhat amended form. The bill was designed to purchase swamp lands on the upper Mississippi River, to be administered by the Secretary of Agriculture as a wild life and fish refuge. As passed, the authorization was cut from \$3,000,000 to \$1,500,000, and the expenditure of any part of this sum is made subject to the determination by the Secretary of Agriculture that all of the lands involved can be purchased and at a stipulated average price of not to exceed \$5 an acre. In view of the fact that the bill makes no appropriation for the Secretary of Agriculture to make this investigation, there is considerable speculation as to whether or not anything can be done under the law until the necessary appropriation is forthcoming.

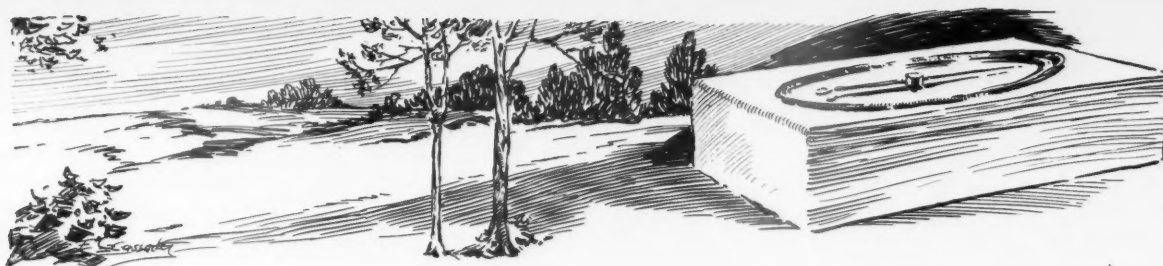
The bill to provide for better roads in our national parks was likewise passed, but is apparently inoperative for a year hence, owing to the fact that the appropriation

for the first year's work was lost by the failure of Congress to enact the second deficiency bill. This is unfortunate, in view of the fact that the estimates for immediate road work in the national parks have been approved by the Budget Commission and by Congress. The improvement of park roads must therefore wait until Congress again meets and makes the specific appropriations authorized by the bill.

The Alaska Game Commission Bill failed of passage, but a step in the same direction was accomplished by the passage of a resolution transferring immediately to the Secretary of Agriculture the administration of game laws in Alaska. Another important resolution which was passed is one creating a joint commission of both houses of Congress to make a thorough and complete investigation of the land grants of the Northern Pacific Railroad and appropriating \$50,000 for the work. The resolution directs the Secretary of the Interior to withhold until March 4, 1926, his approval of the Northern Pacific land grants, in order that Congress may make a complete investigation of the charges by the Forest Service that the company is not entitled to the lands involved.

Another eleventh-hour measure which was successful of passage was a bill making Bryce Canyon a national park, to be known as the Utah National Park. The bill, however, contains a reservation that the area will not become a national park until all the privately owned land within the boundaries specified shall have been acquired by the Federal Government. The area contains a section of land all owned by the State of Utah, with the exception of forty acres the title to which is in the Union Pacific Railway Company.

The bill for the enlargement of the Superior National Forest failed of passage, and the Migratory Bird Refuge Bill, commonly known as the Wild Life Refuge and Public Shooting Grounds Bill, did not reach a vote in either the Senate or the House. Supporters of this measure are planning to press it to vote when Congress reconvenes in December.



# Using Your Compass in the Wilderness

By F. H. SWEET

THE compass is an instrument made use of for obtaining direction, and it must be borne in mind that it is not a "magic box," which will automatically protect its carrier from getting lost in the forest. If you do not keep your mind on the general direction in which you have been traveling, the compass will be of little or no value when the time comes to return to camp.

There are two general types of compasses—the floating needle and the floating dial. The floating-needle type is constructed with the dial attached to the casing and a needle free to move on a pivot. Half of this needle is black, and this half always points north. When the needle comes to rest, the dial must be moved to the point where north comes under the tip of the black end of the needle before any particular direction other than north or south can be determined with any degree of accuracy.

The floating-dial type is constructed with the dial mounted over the needle, so that the dial itself floats on the pivot. The result is that, when the moving element comes to rest, the dial points north, and no further adjustments are necessary. The U. S. Engineering Corps' compass is of the latter type, but it is very sensitive, and care should be taken to have iron or steel articles a few feet away when making accurate observations. This applies especially to gun-barrels.

If you are going to a part of the country that you are entirely unfamiliar with, it will be advisable to get all possible information, usually from the natives, in regard to the topography of the country, such as the general direction and flow of main waters (rivers or big brooks), lakes, traveled tote roads, thoroughfares, ridges, chains of mountains, etc. Make careful note of the camp's location in regard to all these.

In starting out from camp, you should note the direction in which you are traveling, and if in dense growth where locating points cannot be readily seen, you should check with compass occasionally, to see if you are changing your general course. If so, mental note should be made for later reference. When returning to camp, the course is generally opposite to that of going out.

For sake of example, let us assume that a camp is located near a used tote road which runs generally east and west and a river which runs generally north and south. You start north, following the course of the river for an hour or so, and then come to the edge of a

big swamp which you do not care to cross. Then you follow along the edge of the swamp on high ground, which you note from your compass runs generally west. You follow this ridge for about an hour, and then go onto another ridge, which you find from your compass runs generally south and west, and follow it for a while.

Then you decide to return to camp and, having kept in mind your general direction since leaving, decide that you are west-northwest of camp, which means that you must do one of two things—either travel east-southeast to come to camp, and take a chance on the traveling, or go south until you come to the tote road, which cannot be far away, and travel east on the tote road, which is easy to follow.

Now, if you decide to take the straight line east-southeast, you must set your compass on a log or stump, with guns several feet away, and let it come to rest; then turn the mark on glass until it is over east-southeast and get your direction fully as accurate. You should next note some object, such as a big tree which is easy to keep in sight and which is quite a distance away, and go to that object. When you arrive there, repeat the operation, and so on until you reach familiar landmarks near camp.

A case where a compass is of no value is where you leave camp, say generally north, and wander aimlessly about, crossing brooks, roads, ridges, etc., without paying any attention to location or direction. You will, unguided, walk in a circle. If now you try to return to camp by going south, you will not get there. You may already be south of camp, or even east or west, with the ensuing result that soon you will be helplessly and hopelessly lost.

It should be borne in mind that many places in the forest look alike to the inexperienced eye, and it is easy to get confused and make ourselves think that we are at some place where we are not.

The use of a compass in the forest is nothing more or less than navigation applied to land. Ship's courses, now charted, were first laid out by the adventurer who took them and kept record of them for use in returning or for use at some future time.

Chart in your mind the land about you, the same as the first adventurers of the sea, and by aid of the compass you never can be really hopelessly lost. Do not do it, and you might just as well carry a rock as a compass. It is only a dead weight.

# Honey Island—A Waterways Park

BY SIM WEIS

THERE is a stretch of swamp and woodland in St. Tammany Parish, Louisiana, known as Honey Island, that is the finest semi-tropical scenery in the United States. It well deserves the distinction, along with the reservations of other parts of our country, to be set aside as a waterways park. People who have spent their lives in the midst of the typical scenery of any section of a country are more than apt to dismiss from their minds, or never to perceive, that natural beauty abounds in the forms and colors of familiar trees and foliage. When, through some outside influence, they are made

cut into the island and, flowing nearly parallel south, separate Honey Island into three long, narrow strips. Cross-streams connect all of the river branches and divide these three islands into north and south sections, making in fact six distinct islands. Starting from Indian Village Landing in a power launch, one can circle the smaller isles, traversing some fifty miles of navigable streams where banks are all unchanged by man.

Entering the estuary of West Pearl River from the Rigolets, a splendid lesson in land-building can be studied. Marsh only is visible for several miles. The land then



STARTING FROM INDIAN VILLAGE LANDING IN A POWER LAUNCH, ONE CAN CIRCLE THE SMALLER ISLES, TRAVERSING SOME FIFTY MILES OF NAVIGABLE STREAMS WITH BANKS ALL UNCHANGED BY MAN, THROUGH THE FINEST SEMI-TROPICAL SCENERY IN THE UNITED STATES

responsive to the extraordinary attraction which is peculiar to the native landscape, it is, perhaps, too late to preserve the treasure for less accustomed and more appreciative eyes.

Pearl River, just below Bogalusa, Louisiana, divides into East and West Pearl rivers, bounding in its delta this jungle island thirty miles long. Both from rains and high tides, the river often overflows its banks, so that most of the area is a splendid cypress and tupelo swamp of alluvial origin. About midway the island's western boundary West Pearl River branches into three parts. Two of these forks, East and West Middle Pearl rivers,

begins to rise out of the sea and small clumps of varied woods appear on the higher ground; then comes scattered trees along the margin of the river, until finally a dense virgin swamp is reached about five miles from salt water. A few miles farther upstream the banks opposite Honey Island are above the high-water mark, so that pine and live oak grow to the water's edge. Every variety of timber grown in Louisiana can be seen in this short distance.

One is wont to think that only in the north leaves assume autumnal hues, but a Louisiana swamp in autumn surpasses all the glorious varied floral colors of northern climes. The dying cypress leaves are bronze of varied



hues; the maples vie in beauty with northern maples; the berry-bearing bushes and vines quickly lose their verdure, exposing great blotches of red and black fruit to stain the landscape. A number of other trees also shed their foliage, leaving their beautiful trunks and limbs festooned with Spanish moss as a dark background to the higher colors. Interspersed between their naked gray trunks, the evergreen palmetto grows in strong contrast, and here and there green pines, water oaks, and willows add to the variation of colors. As the morning sun filters through the dense woods, the rays cast shadows and shimmering gleams on the green and amber pools, transforming this forest into an impressionist picture painted by Nature.

The red bud of the maple is the first to come in spring, then the cypress puts forth new blossoms of a marvelous purple. Stray pines, which have crossed the river to take their places upon a knoll, tower over their cypress neighbors, each variety of trees adding a different shade of green or bronze to the many beautiful combinations of



BEAUTIFUL LIGHT AND SHADE EFFECTS ARE REVEALED AT EVERY TURN OF THE LOVELY WATERWAYS

color and form. The odor of wild flowers permeates the atmosphere, even out to midstream.

All tree trunks are interesting, but that of the cypress is the peer of all. Its broad foot, surrounded with knees resembling gray buttresses, is the base of a tall, straight trunk which, in some specimens, ends at the top in a clump of branches with full-foliaged lines so sharp that they appear to have been trimmed.

Other cypresses, with limbs branching close to the ground and leaning over the banks of the stream, are hung heavily with moss, which swings with every puff of wind and casts ever-moving shadows over the water. Each long tuft of moss changes its color from light to dark gray as it sways back and forth suspended from branches as twisted and interesting as the famed cedars of Lebanon. The symmetrical and smooth trunk of the tupelo, or black gum, is the second to win attention. Its cone-shaped base supports a flawless, perfectly round body, which, when bare in winter, gives to the landscape the appearance of a steel engraving.

Here and there one runs across a fringe of saw-grass bordering the river, never more than two or three feet wide, growing as if planted by man instead of Nature. The water



"THIS IS THE FOREST PRIMEVAL. THE MURMURING PINES AND THE HEMLOCKS, BEARDED WITH MOSS, AND IN GARMENTS GREEN IN THE TWILIGHT, STAND LIKE DRUIDS OF ELD . . ."

hyacinths in blossom cover the narrow streams completely, winding a rich purple ribbon through the green morass as far as eye can see. For short stretches the river has abandoned its old bed, forming in these cut-offs shallow lakes in whose sheltered corners water lilies spread for acres; and there, too, as if in hiding, the finest cypresses grow. Then again the banks are covered with a compact group of oaks with low boughs, so dense that nothing but

green is visible; or willows, large and matted, grow for a stretch; then gum alone is seen; but most of the banks have varied beauty.

Occasionally one finds a trapper with his pictur-

make Hudson seal. The Louisiana Department of Conservation reports that the value of the fur-bearing skins taken in the Louisiana swamps and marshes in a good year have a worth of three million dollars to the trappers.

The Pearl River is not without its fisherman. Those fishing for market find their best catch to be catfish, which grow to a profitable size and have a ready sale. The men tell a yarn about one fish so large that as it was pulled out of the water the river fell a foot! One native darkey insisted that all the fish there grow twice as big as possible.

As might be expected in such a primitive haunt, wild life of every description abounds. We are at home with the alligators, turtles, herons, kites, squirrels, wild turkeys, muskrats, otters, coons, opossums, and mink. The most beautiful winged inhabitant is the wood duck

(known locally as *Branchu*), which alights and sleeps in the trees. This bird is a delight to the epicure. The drake, with his coloration of a peacock, is beautiful to behold, surpassing all other ducks in the brilliancy of his plumage.

At eventide the spider (*Nephila cla-*



(Photographed by  
Percy Viosca)

A NATIVE  
TREE-FROG



(Lower inset) A  
WATER MOCCASIN



FILTERING THROUGH THE DENSE WOODS, THE  
MORNING SUN CASTS SHADOWS AND SHIMMER-  
ING GLEAMS ON THE DARK WATERS

esque house-boat tied to the bank. His wife, a real help-mate, after completing her domestic duties, spends her leisure in skinning muskrats. The baby takes care of itself, tottering around the narrow deck. The traps are laid along a coulée (a drain two or three feet wide which winds its way amidst the roots in the spongy soil). One is startled as if encountering a wild animal when by chance this trapper suddenly paddles out of the gloom in his *pirogue* (dugout) laden with muskrats, coons, and mink. Most trapper families, however, live in the sea marsh at the mouth of the river. Here the energetic trapper takes five or six hours' walk over marsh for a day's work. He flounders about to place the steel traps near the rat-holes, immersed in puddles and so set that the lightest step will release the spring and send the pelt to

*vipes*) begins to spin its web, sometimes so large and strong that it completely crosses the bayou. Authorities on spiders say that cloth can be made of its silk. One thing seems certain, this must have been the spider web used to clothe the fairies, for it is spun in a fairyland. As the insect, with a body about an inch and a half long, stands out at dusk against the sky, suspended between branches far apart, no imagination is necessary to see in it a monster; but naturalists maintain that it is not poisonous. In fact, this spider is a rather docile creature and will not even bite.

Louisiana's whistling frog, which sings like a bird, is one of the seven species of tree-frogs that live on Honey Island. Its notes cannot be distinguished from one of the calls of the red-bellied woodpecker. Considering the



Percy Viosca, Jr.

IN SHELTERED CORNERS OF SHALLOW LAKES  
WATER LILIES SPREAD FOR ACRES

frog family as a whole, it is doubtful if any area its size in the world has a greater frog population than Honey Island. To the "frogologist" it is paradise, for already there have been recorded twenty distinct species of frogs and toads, the voices of nearly all of which are sometimes audible during a single summer night. These notes range in tone from the pleasant cricket-like song of the tiny cricket frogs, through intermediate sounds, such as the crow-like caw of the spade-foot toads, to the deep bass bull-like bellow of the giant Louisiana bullfrog—bandmaster "*par excellence*." There is a mood of one of these frogs that brings forth a note which trills for barely a minute, yet entrances the listener with the sweetness and volume of its tone. The commercial frogs of Louisiana are quite important. In fact, there is a statute on its books that begins thus: "The ownership and title to all frogs found in the State of Louisiana is hereby declared to be in the State." This distinction is not due to their voices, but to their hind legs, so celebrated as a delicacy that Japan has imported Louisiana bullfrogs to stock frog farms in that far-away country.

Another wonder is the choupique, a fish that lives in the amber waters of the swamps and smaller bayous. Resembling in one respect the lung fishes of other continents, it can, perhaps with the aid of its lung-like swimming bladder, survive a drouth, buried in the damp mud of the dried-up pools.

One is rather surprised to learn that snakes in this secluded tract are not troublesome. Rattlers seem confined to the impenetrable cane brakes, but the venomous water moccasin is more in evidence, especially in the marshes. A native, however, stated that if the moccasin's fangs struck you, you might be inconvenienced a bit, but seldom, if ever, die from the bite. Water moccasins are a potential rather than an actual danger, and, in spite of public opinion to the contrary, have a habit of minding their own business. The large majority of the so-called

deadly moccasins of Honey Island are harmless water snakes.

As primeval swamps are hard to find, and still more difficult to reach, the proposition to make some twenty thousand acres of Honey Island into a park should enlist public interest. Such picturesque specimens of swamp trees are generally inaccessible or hard to preserve intact. Honey Island, however, can be approached by train to Slidell; by boat through the Rigolets, and by automobile road from New Orleans and the Mississippi Gulf coast. There is a highway on the Mississippi side to Pearlington and on the Louisiana side to Indian Village Landing, and a ferry plies between these two points through the Mill Bayou route. This ferry ride alone is worth a weekend trip, for Mill Bayou is one of the loveliest parts of the waterways.

All who have visited this "water park," the heart of Pearl River Delta, enthuse and delight in every mile of the natural landscape garden, as they glide on the quiet waters of rivers and bayous traversing Honey Island. To lie in the open, on the deck of a boat anchored off Honey Island, and wait for the night cries, to watch the stars rise over the tree-tops or hang sparkling on the branches like Christmas candles, throwing their reflections into the mirroring waters, excites the hope that this peaceful, beautiful island may become more widely known and appreciated, and that a movement will be inaugurated to conserve it unchanged, with all its natural charm—a joy and rest for mankind forever.



A LOUISIANA SWAMP IN AUTUMN SURPASSES ALL  
THE GLORIOUS VARIED COLORS OF MORE NORTH-  
ERN CLIMES, AND THE SHEDDING OF FOLIAGE  
LEAVES TRUNK AND LIMB FESTOONED WITH  
SPANISH MOSS



# The "Western Forestry" Research Plan

By E. T. ALLEN

**W**IDESPREAD interest is being taken in the research project recently inaugurated by the Western Forestry and Conservation Association, by which co-operative facilities are being utilized by Pacific coast lumbermen to solve the problems of forest-land management. At least one manufacturers' association in another part of the United States is already considering a similar department to serve its members. Such inquiries suggest some possibility that the innovation may have an appeal tending to advance private forest research more speedily and widely than if it were left entirely to individualistic enterprise.

It would be unfortunate, however, were an impression to gain currency among foresters or lumbermen that this co-operative "Western Forestry" plan suggests any conflict with individual enterprise or with the usefulness of company foresters, consulting foresters, or the co-operative help offered by state and governmental agencies. I am, therefore, glad to have this opportunity to explain it more fully than did the early announcements.

The plan really had its inception four years ago, when the Western Forestry and Conservation Association, serving as the clearing-house for all private, state, and governmental forest institutions in the Pacific Coast States and British Columbia, announced its belief in correlating, as had already successfully been done in protection work, the efforts of all interests in determining a sound basis for permanent utilization of western forest lands. The first step was the creation of a forest policy committee representative of the chief regional forest types, namely, Forest Service, state foresters, and lumbermen. Through this, with previously established co-operation in protection matters, was created machinery for constructive joint consideration of principles, methods, and legislation.

There remained much absence of knowledge and agreement as to detailed facts concerning the actual areas, conditions, growth, treatment, and economic situation of the forest lands themselves, both as to averages and as to variation in sites, and even more, of course, as to future economic influences like carrying costs, risks, and distant returns. To see what is determinable now was the next needed step, not only in order to assist owners in intelligent consideration of their situation, but also to guide all concerned in intelligent effort to improve the conditions confronted. Obviously the owners themselves should have a proprietary part in all this.

The first plan was to make field research on private lands a general association movement, dealing with types and averages rather than with tracts. This soon appeared to be too great an undertaking for the tremendous association area involved; also, probably more properly a function for public agencies like the Forest Service, states and forest schools. The more logical aim was to get information enabling specific application by owners.

The next stage was to see how rapidly private owners would move toward individual investigation through employing company or consulting foresters, the results becoming co-operatively available. This was encouraged strongly and with some success, but also proved to be rather uncertain in meeting the general need. It lacked somewhat in making the information generally useful and also appealed mainly to owners having the best conditions and more than ordinary reason to believe forest-growing a profitable enterprise. It offered little help to those who have good reason to believe otherwise. It was adopting forestry practice more than investigating all alternatives, and to this extent a final rather than a preliminary development.

Hence the plan finally adopted by the many Pacific coast owners who were sincerely interested but desirous of proceeding in the most constructive manner—that of an absolutely impartial study, without preconceived bias or conclusions, the results to be relied upon in consideration from any angle. And the analysis of these results is to have the advantage of commanding the best available authorities familiar with all situations as well as with any given tract. To make the research of the highest use promptly, fairly representative lands and operating conditions are studied first. To finance it fairly, the research department was established independently of the association's general funds, the owners of the lands chosen to prorate the cost entirely among themselves. Thus they become the underwriters of a project of great value to all other lumbermen and the public, while presumably assured of a compensating individual return by the more specific value of the results in determining their own land policies. Finally, they are not thereby committed to any policy in advance; indeed, the first effort was to include lands and situations both favorable and unfavorable to private forest-growing.

For the first year, participation is limited to eight companies, with the further experiment of fixing six as the most for which the association will undertake all the field-work, and two who employ their own foresters to see how this form of co-operation works. There was no difficulty in filling this quota; indeed, more could easily have been secured had it been thought wise during the experimental stage. The distribution was also regulated for the first year as follows: California, one company in the Sierra type, the Michigan-California Lumber Co.; Oregon, the Shevlin-Hixon Lumber Co. in the western pine type, and in the fir region the Booth-Kelly and Hammond companies; Washington, Weyerhaeuser Timber Co., West Fork Logging Co., and St. Paul and Tacoma Lumber Co.; Idaho, Potlatch Lumber Co., in the white-pine type. To these prompt and progressive volunteers most of the credit for the experiment is

[Continued on page 448]



## Camp-fire Stories

By

## Forest Rangers

### Treed by a Razor-Back

By OSCAR O. WITT

"FOREST FIRES?" drolled the ranger from Tennessee, as he dropped a glowing coal in his huge pipe and heeled himself back from the camp fire. "Sure, plenty of forest fires back in old Tennessee; about as common as razor-back hogs."

The old Wyoming ranger snorted. "Hogs!" he exclaimed. "What in thunder has hogs got to do with forest fire?"

"Right smart in one case I happened to know about," returned the other, "and I reckon I know all about it. It happened just this way: I had been fightin' a forest fire. Fact is, fought it until my eyes were almost smoked out, but after a while I got that fire under control. Then I set down on a log by a small brook to eat my lunch. By and by I heard a noise a little way up the canyon; so I left my lunch, coat, and outfit lying there on the log and went to investigate that noise. I thought it might be some one setting the woods afire again, as they very often do as soon as a fireman gets it out and goes away. But it turned out to be a bunch of razor-backs in an old wallow—an old sow and about forty-eleven little pigs. That old mother cast one wicked look at me, and then on she came, with every hair turned the wrong way. I could see it weren't no time to argue matters, so I made a run for the nearest tree, and, believe me, I didn't lose no time going up it either. I managed to get up out of reach on a limb. The old gal couldn't reach me, but she didn't seem to have any notion of leavin'. I sat there on that limb and waited for I don't know how many hours,

until she went back to her wallow, which was only about twenty feet away.

"It was gettin' late in the evening and I was gettin' cold without my coat. I sure wanted to get back to my lunch and go home; so I decided to see if I couldn't get down and slip away without disturbing the hogs. I started creeping down that tree without making a sound; but just when I was almost to the ground, a dead snag I was holding to broke and made a noise like a pistol going off. I gave one look and then scratched back up that tree like a scared squirrel, for there came that old sow, hell-bent for election.

"By this time I was getting pretty cold. I had to climb up the tree a way and back down to my limb to keep from freezing. I will tell you now, buddy, that was a hard way to keep warm. Every time I would make the least bit of noise, here would come that old sow. It was gettin' darker and darker and colder all the time. Man, I would have given a thousand dollars for any kind of a gun. I thought of the preacher and the bear; thought if I got much colder, there was going to be an awful fight; so I tried to devise some plan of escape. I waited until I was sure that old hog was asleep, and then started slidin' down that tree again without making a sound. I reached the ground all right and was steppin' away high and careful-like, but when I got about twenty feet from the tree I stepped on a stick that broke with a pop and waked that old devil up, and here she came.

[Continued on page 432]



## EDITORIAL

### Congress and Forestry

WHATEVER else may be said of the Sixty-eighth Congress, it has to its credit a constructive piece of forest legislation. The forestry bill sponsored by the Senate Committee on Reforestation, first introduced in the Senate by Senator McNary and later in the House by Representative Clarke, became a law on the last day and almost at the last hour of the session. This act marks the fourth clearly defined step forward in federal forest legislation in this country. The first was the Act of March 3, 1891, which authorized the President to create national forests from the public domain. The second was the Act of February 1, 1905, which transferred the national forests from the Department of the Interior to the Department of Agriculture and gave them efficient protection and administration. The third was the Act of March 1, 1911, better known as the Weeks Law, which provided for federal acquisition by purchase of forest lands for the purpose of protecting the water supply of our navigable rivers.

The united support which the new measure received from forestry and trade organizations throughout the country, from the press, and from the general public was a large factor in the passage of the bill. Special credit, however, is due to Senator Charles L. McNary in the Senate and Representative John D. Clarke in the House for their constructive leadership in forwarding the legislation in Congress. Great credit is also due the members of the Senate Committee on Reforestation, whose report on forest conditions throughout the country formed the cornerstone for the legislation enacted. The members of this committee were Senators Charles L. McNary, Chair-

man, of Oregon; James Couzens, of Michigan; George H. Moses, of New Hampshire; Pat Harrison, of Mississippi, and Duncan U. Fletcher, of Florida. For individual effort, we believe greatest credit probably belongs to the Chief Forester of the United States, Colonel William B. Greeley, for his untiring efforts and outstanding ability in placing before the committee in Congress authoritative information on forest conditions and the essentials of relief legislation.

The new forestry act, as this Association pointed out when the legislation was first proposed, is not as comprehensive as might be desired. It does, however, broaden very materially the authority to expand and upbuild a national forest policy. The act is an authorizing one, and to be fully put into effect must be reinforced with adequate appropriations. With the authorizing power provided, these, we believe, will be forthcoming at the next session of Congress. A review of the provisions of the new act are given on another page in this issue of *AMERICAN FORESTS AND FOREST LIFE*. One of the most important provisions of the act is that authorizing the President to bring under administration and forest management federally owned lands not now included in national forests which are chiefly valuable for timber production. The spectacle of the Government advocating forest management for others while millions of acres of its own forest land are idle, unprotected, and depreciating is inconsistent, to say the least. With the authority now provided, it is to be hoped that the Federal Government will rapidly extend efficient administration and protection to all of its forest lands.

### "Short Lengths"

IN THE lumber trade there is a class of material which goes by the name of "short lengths." It is the odds and ends of lumber which in sawing do not measure up to the full stature of lumber standards. We think that the conservation plank in the platform adopted by the Republican National Convention at Cleveland on June 11 falls in the class of "short lengths." In point of brevity, it is exceeded only by its vagueness. It reads as follows:

"We believe in the development, effective and efficient,

whether of oil, timber, coal or water power resources of the Government, only as needed and only after the public need has become a matter of public record, controlled with a scrupulous regard and ever vigilant safeguard against waste, speculation, and monopoly.

"The natural resources of the country belong to all the people, and are a part of an estate belonging to generations yet unborn. The conservation policy of the nation originated with the Republican Party under the inspiration of



Theodore Roosevelt. We hold it a privilege of the Republican party to build as a memorial to him on the foundation which he laid."

The assertion that the development of our natural resources should proceed "only as needed and only after the public need has become a matter of public record" fits nicely the Tea Pot Dome case. But how about the development of our timber resources? Surely the men who

penned the above paragraph do not advocate that we wait until a timber famine has become "a matter of public record" before we start to grow trees which cannot supply lumber and pulp wood for twenty-five or fifty years hence.

This is not the time, politically or otherwise, to "short-length" conservation. An "honorable mention" plank may gratify some, but it is *action* that will count with the vast majority of Americans.

## Personal Liability

IN AN endeavor to burn the carcass of a deer which they had shot illegally, two hunters started a brush fire last fall on the Santa Barbara National Forest, California. The fire escaped their control and it was necessary for the Government to call out a large crew of men in order to extinguish the fire. As it was, two thousand acres of brush and forest land were blackened before the fire was put out, and the cost of extinguishing it amounted to \$2,500.

The two hunters were subsequently haled into court, and a California jury found them guilty of causing the fire. The federal judge ordered them to pay to the United States Federal Government the sum of \$2,500, the cost of controlling the fire which had been started by their own negligence.

This is a significant decision. We believe it is one of very few instances where the court has measured the personal liability for carelessly starting forest fire by the cost of control. The decision adds strength to the legal precedent for personal liability decisions, and we believe will be far-reaching in stimulating a wholesome public respect for forest protection.

The practice of team-work, co-operation, concerted effort, or whatever it may be aptly called, cannot be emphasized too vigorously in fire prevention. At the same time, individual responsibility and the sinister shadow of personal liability will do much to stay the careless hand.

## Bright Angel Trail

STANDING by their guns almost to the last hour, the lower branch of Congress finally, on June 3, won its legislative fight for Bright Angel Trail, in the Grand Canyon National Park. Full particulars of this remarkable controversy were published in the last number of this magazine. At that time both houses of Congress seemed hopelessly deadlocked on the question of giving the Federal Government specific authority and money to purchase the trail from Coconino County, Arizona. This deadlock continued up until early June, the House refusing to recede from its position that ample and unrestricted authority should be given the government to acquire the trail. The Senate, on the other hand, took the position that action should be subject to the popular vote of the people of Coconino County.

Senator Cameron made a final and vigorous attempt to stem the Senate's action, but he was unsuccessful. Again disclaiming any personal interests in mining or other claims in the Grand Canyon, despite the fact that he is said to be a party to several pending government suits, he appealed to the Senate to heed "the sacred and inviolable right of a Senator to voice the sentiments of his home state and to represent and to guard the rights of his constituency." Senator Cameron's opposition to the Bright Angel Trail legislation was not, however, shared by all other Arizona representatives. Senator Ashurst and Representative Hayden were indeed among those who led the fight for the government's acquisition of the trail.

The bill as passed contains the House amendment, which reads as follows:

"For the construction of trails within the Grand Canyon National Park, \$100,000, to be immediately available and to remain available until expended: *Provided*, That said sum may be used by the Secretary of the Interior for the purchase from the county of Coconino, Arizona, of the Bright Angel Toll Road and Trail within said park under such terms and conditions as he may deem proper, and the Secretary of the Interior is authorized to construct an approach road from the National Old Trails Highway to the south boundary of said park."

This provision, it will be noted, gives wide authority to the government in negotiating the purchase of Bright Angel Trail. The government may buy it from the county at a cost of not to exceed \$100,000, provided the county is willing to sell; in the event it is not, the government may use the money to build another trail, which will not be subject to ownership or to administration by a local county. Despite Senator Cameron's charges, we think the amendment as passed is thoroughly in accord with sound national policy. Roadways and trailways in our national parks should be owned by the Federal Government and not by local counties or other agencies. The controversies and delays resulting from the mining claims repeatedly declared illegal, located in the Grand Canyon by Mr. Cameron, now a Senator, and his associates, is a blot on government efficiency. It is high time that this whole situation with respect to the so-called Cameron mining claims in the Grand Canyon National Park and the disreputable-looking structures on some of these claims be speedily and summarily cleaned up.

## Will Forestry Pay?

**W**ILL forestry pay? This much-mooted question, which has been booted about in all sections of the country for many years, has been placed upon a dissecting table by a group of progressive western lumbermen, who, with no preconceived notions, propose to answer the question for their own guidance, in a scientific and business-like way. An account of this project is presented on another page of this issue by E. T. Allen, forester of the Western Forestry and Conservation Association, who has charge of this investigation. The project is a significant one in several respects. In the first place, it is, we believe, the first instance in this country of a group of large lumber companies on their own responsibility entering into co-operative research designed to determine the best methods of handling their forest lands. This in itself is noteworthy of the progress in this country of forest thought on the part of private lumbermen. Ten years ago, and probably five years ago, such a project would have been impossible.

The question of whether or not forestry in this country will pay has its enthusiasts on one hand and its pessimists on the other. The question, however, is one which is not subject to a broad answer. The enthusiasts, to be sure, may point to specific examples of forest practice inaugurated within recent years by various lumber companies, such as the redwood operators in California, certain pulp companies in New England, and a few pine companies in

the South. The pessimists, on the other hand, may point to the instances of where private companies have undertaken forestry practice and given it up as bad business. We think the enthusiasts have much the better of the argument, because it is almost invariably the case that the failures in private forestry can be traced back to lack of preliminary investigation of local forest problems. Such failures naturally serve to retard the acceptance of forestry practice by private companies.

The western project is, therefore, not only an encouraging sign of progress, but a healthy example of the business-like handling of the forest question. It is said that the lumbermen composing the group have entered into the project with open minds and with a sincere desire to obtain reliable data, which will guide them in the intelligent management of their large holdings. We believe that this is the forehanded way for lumber companies with large holdings to approach the forestry question. The pity is that more of them have not done it sooner. There is good reason to believe that if the question "Will forestry pay?" is answered, not in the unsupported abstract, but by specialized study of conditions involved, the answer in nine cases out of ten will be in the affirmative. In view of the fact that some of the largest lumber companies in the country are participating in the project in question, the progress of their research activities and findings will be watched with national interest.

## The Outdoor Conference

**N**OT a few people prophesied that the National Conference on Outdoor Recreation, held in Washington May 22-24, would flash upon the screen and then disappear like a lost film. These prophecies were not fulfilled, for the conference resulted in a permanent organization now actively formulating a large national program of objectives. The names of its officers leave no doubt as to the substantial character of the organization, and the one hundred independent organizations represented on its Advisory Council are indicative of its possible strength. One of its definite acts will be to make an inventory of the outdoor recreational needs and facilities of the American people. It goes without saying that this information is basic to any intelligent handling of outdoor recreation as a national resource.

The American Forestry Association and the National Parks Association have been asked by the executive committee to appoint from their membership a joint committee which will direct a survey of the recreational resources of our federal parks, national forests, and other public lands and waters. The government lands unquestionably form the hub of national recreation development. Action which will mark leadership will, we think, center in the government's own handling of its land and water resources for recreational use. Thus far that use as a

desirable and legitimate one has been but illy recognized by the Federal Government and most particularly by Congress. It seems an intensely practical thought that there can be no real progress in putting to use for recreation our federal lands until that use as a national need is given a place in Congress and adequate appropriations for development forthcoming. This the proposed survey should accomplish.

Skeptics notwithstanding, therefore, the Conference on Outdoor Recreation is marked by tangible accomplishment. Strange as it may sound, the most important feature may now be the most intangible. We refer to the beneficial results which are bound to follow the opportunity which the conference provided for all agencies and organizations to draw together in co-operative thought and action. Such meetings strengthen and clarify the whole cause of conservation. In this day of multitudinous organizations, there is ever the danger of too much seclusion of independent action, resulting in duplication of work, lost effort, confusion of the public mind, and petty inter-association jealousies. From the germ planted by the conference in Washington we believe will come eventually a great inter-association movement which will assure us a rational and properly balanced program of recreational development in this country.

# The Secret Cave of Mt. Timpanogos

*How a Party of Forest Officers, After Long and Persistent Search, Located and Explored a Hidden Cavern in Utah's Most Famous Mountain.*

BY GEORGE A. GREEN, JR.

**A**MERICAN FORK, one of the beautiful canyons of the Wasatch Range, thirty miles south of Salt Lake City, is a deep box canyon, with cliffs and ledges of white and blue lime, rising for thousands of feet from the road that carries tourists to Mt. Timpanogos (The Sleeping Woman), Utah's famed peak, 12,000 feet high.

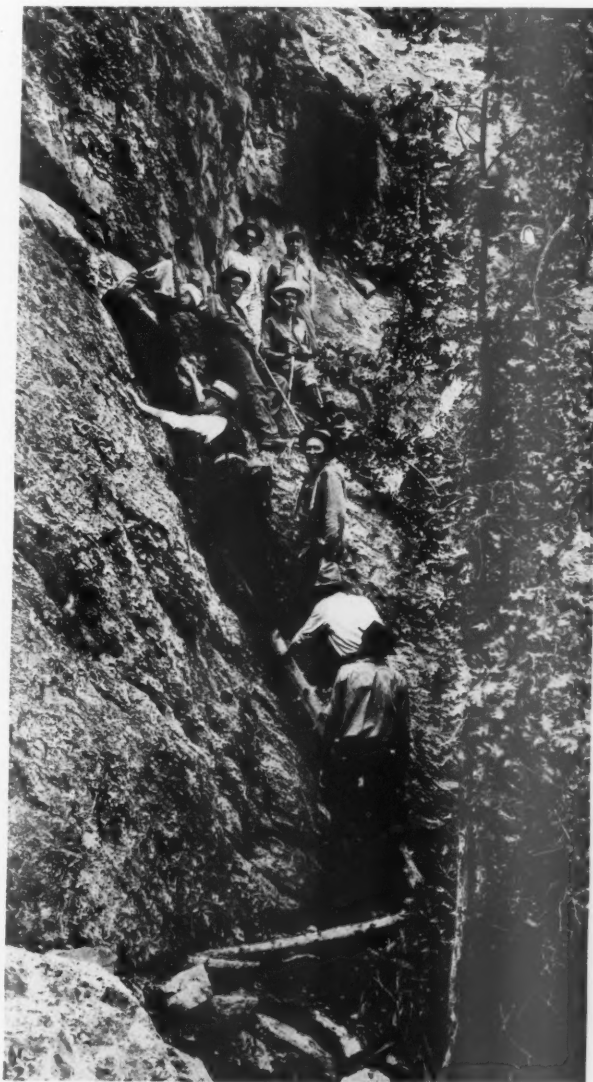
In this canyon, some thirty years ago, a hunter and trapper by the name of Hanson chased a mountain lion high up into the ledges and into a natural cave. In due time Hanson, who still lives and is active, explored the cave and found one of nature's wonder spots—a subterranean chamber approximately five hundred feet long, with many small and large rooms. This cave, which bears his name, has since been vandalized and thousands of dollars' worth of onyx and fantastic formations extracted and sold.

In 1921 a rumor reached the office of the Wasatch National Forest that a more beautiful cave had been discovered in the same vicinity. After months of careful investigation by the supervisor, the name of the man who had discovered it was learned. He had covered its entrance by a mining claim in 1915 and had been keeping its location a

secret. When approached he said: "I will lead you to it for ten thousand dollars and not a cent less." It was, of course, out of reason for the Government thus to purchase

something it already owned, for it seemed unlikely that the ground contained mineral and could be patented. We therefore organized a search to locate the secret opening.

Hunting for a cave in this rugged country was very difficult and often hazardous. With no very definite clues to guide us and knowing that the mouth was carefully camouflaged, the search seemed hopeless. But as time passed and the search proceeded, a fortunate incident occurred. A phone call was placed for the man who knew the location of the cave, and his wife answered. She freely gave all the information she knew regarding the cave, telling something of what it contained and describing quite accurately its location. A searching party, consisting of the supervisor, deputy, and ranger, immediately took the "trail" while it was warm, winding through ledges and scattering scrub pine—up, up, up for a mile of the most dangerous going; fighting slide rock and climbing around and over cliffs, where it was necessary to help one another, many times being ledged



THE SEARCH FOR THE SECRET CAVE STARTED FROM THE ROAD, WINDING THROUGH LEDGES AND SCATTERING SCRUB PINE—UP, UP, FIGHTING SLIDE ROCK AND HANGING ON TO ANYTHING POSSIBLE, FOR ONE MILE OF THE MOST DANGEROUS GOING





BUT AFTER THE NEW TRAIL WAS CONSTRUCTED IT WAS ANOTHER STORY. THOUGH STILL A DIFFICULT CLIMB, MUCH OF THE DANGER HAS BEEN ELIMINATED

and forced to search out a new route through narrow fissures in the rock; hanging on to everything possible, occasionally scaring up a lone grouse or crossing a wild-cat's track. We finally reached a long cliff of white and blue limestone one hundred feet high. At the bottom and near the east side was the entrance.

After staking our twine, which was to be our guide back, we entered a round hole three feet in diameter and slid, head first, on our stomachs down a steep incline resembling a chute for thirty feet under the cliffs. I may say here that entering a black hole into an unknown mountain cave, which to this day is not yet entirely explored, caused a thrill never to be forgotten. We had not gone over thirty feet when the opening grew so small that we had to remove our packs, lay on our backs, and enter feet first. Having worked as a miner and having had the privilege of helping dig two poor devils out that had been caught behind a cave for thirty hours, where the wives and children, doctors, mining engineers, and hundreds of people waited on the outside for returns, I was somewhat

skeptical of a place of this character, especially of the air it contained.

But, to our surprise, we found a draft circulating, proving that it had another outside opening, which has never yet been discovered. The first fifty feet smelled strongly of mountain rats, and resembled a den of wild animals. The cut opened into large chambers filled with stalactites and stalagmites of all shapes and colors, from the purest white to the richest chocolate. Perfect forms of animals were seen here and there, formed through the water formation. A perfect seal, doves, kewpies, and an elephant head were found standing solid on the walls. Farther in we went, one going this way and one going that, never to lose sight of one another's lights, for there were deep black holes, no one knew how deep, and the scenes resembled one another so much that all sense of direction soon left us. We relied entirely on our guide-strings.

The floor in spots was covered with fallen stalactites and the solid stalagmites in places made our hands and knees almost bleed, as we crawled over them for hundreds of feet. Seven hundred and fifty feet from the mouth is the main portal, with a beautiful-shaped heart, six feet high. It is now called the "Heart of Timpanogos." In an adjoining chamber is a small crystal lake, so clear that it is almost impossible for the eye to detect that there is water without throwing in a stone to cause waves.

The Adjack stands there as if holding the whole mountain on its shoulders; the bridal chamber; the Devil's



THE GREAT "HEART OF TIMPANOGOS," A MOST REMARKABLE FORMATION GUARDING THE MAIN PORTAL OF THE CAVE

comb, with eight teeth ten inches long and each a different color; the cauliflower bed, a mass of beautiful white bunches resembling the cauliflower; Chocolate Fall and nut-cracker stairs. Wonderful toned chimes can be made by striking one stalactite with another.

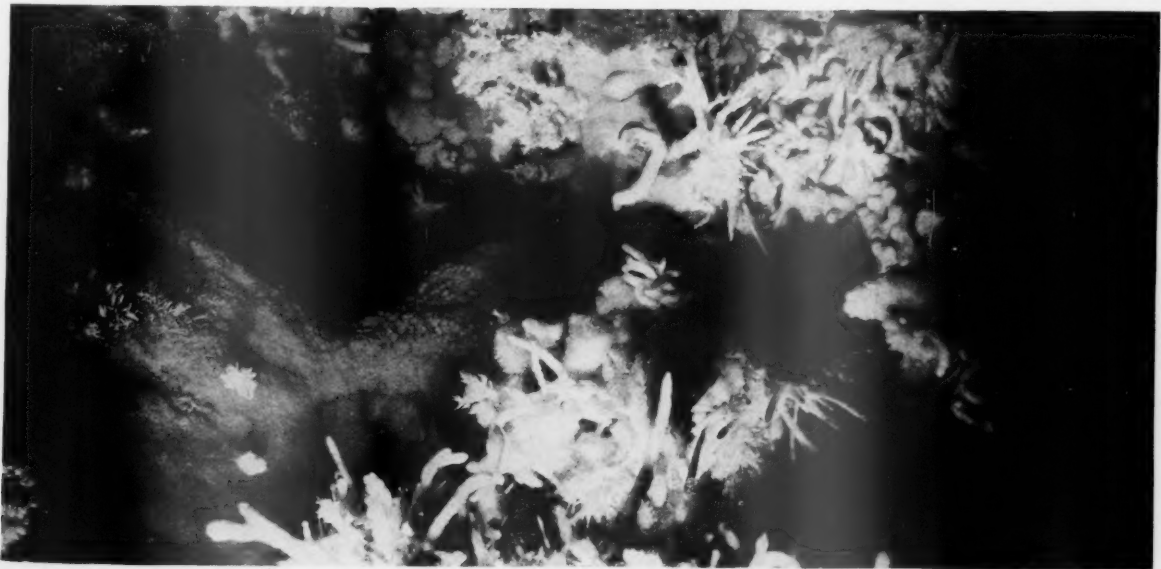
After five hours of this wonderland, I dare say unequaled anywhere in the United States, we came out and I felt as though I had returned from an enchanted world. From the first a guard was placed at the entrance and not removed until a strong locked door took his place. This cave has been developed with a one-mile trail, with thirty-four switchbacks winding in the solid rock, where one misstep would drop the climber



BEAUTIFUL DRAPERY OF STALACTITE, VARYING IN COLOR FROM PUREST WHITE TO RICHEST CHOCOLATE, HANGS AGAINST THE DARK BACKGROUND OF THE WALLS

hundreds of feet below. A telephone and electric lights of different colors have been installed and large, strong spotlights placed at points of special vantage. Tunnels have been driven to make exploration more convenient, for during the season of 1922 ten thousand people, representing fifteen foreign countries and thirty-five states, visited the cave. Four applicants have applied for a franchise to operate a stage line, and a uniformed guide with a modern residence has been provided.

I have been through this wonderful Timpanogos Cave five times, but never with the thrill experienced the first day, which will never be erased from my memory.



THE WEIRD SUBTERRANEAN GARDENS OF TIMPANOGOS DISCLOSE A BEWILDERING VARIETY OF FLOWER AND VEGETABLE FORMATIONS—ART OF NATURE, EONS IN THE MAKING, CUNNINGLY CONCEALED FROM MAN. UNCOVERED BY THE MEREST ACCIDENT



## Build a Forest Now, Says Gilbert— And He Does

**O**LD timbermen whose lives reach back into the heavy forests of a half century or more ago can tell unbelievable stories of how, in that pioneer age, tracts of choicest timber were traded for a spotted cow, an old sewing-machine, or a flint-lock rifle. In those days men sought the soil under the trees, and the forest was often looked upon as worse than worthless—an actual encumbrance. But times have changed, and in the change history has slowly reversed the old order. Today land—millions of acres of it—is, in some sections, a real encumbrance, just because it has been separated from its once majestic forests. That this land, with a little care, is capable of rehabilitating itself, and that even in

these post-war years of high prices sizable tracts of it can often be obtained at bargain prices is, who can say, opportunity loafing on many a doorstep.

This is a story in point, the account of a man who, with vision aplenty and a pocketful of dimes, has within

the last three years acquired in fee simple several hundred acres of good timber-growing land at a price of less than ten cents an acre. What is more, these acres are well blocked up, many of them contain thrifty young trees, and altogether a decidedly worthwhile forest estate is in the making.

The man's name is James Clyde Gilbert and his home is at Wayne, Michigan. He is not a member of the old timber school of the Lake



*Photographs by Flanders Bros.*

### MR. GILBERT AND PART OF HIS "TAX-TITLE" FOREST

Sturdy trees of pine and birch have come back on this island, where fires have been kept out. The little white pine in the foreground grew 22 inches in height during 1923.



States, but he has, with observing eyes and studied forethought, seen the landscape of his native state change from the conifer green of pine forests to the drab horizon of barren cut-over land. Perhaps that is why, to him, the menace of a timber famine has become very significant. In any event, Mr. Gilbert, looking forward, selected Otsego County, Michigan, as the location of his forest-building activities.

Apparently he believed in building from the ground up, for it is now forty-five years since the lumbermen began to cut the virgin pine of Otsego County, and long ago the supply was exhausted. And so that part of Otsego County known as the "pine barrens" is said to be "land poor" because of the great portion of the county which contains unproductive cut-over lands, suitable only for growing timber. Indeed, a good many thousand acres of these lands have already reverted to the state for nonpayment of taxes, and it is here that Mr. Gilbert's dimes have brought big land returns, for he has played the tax-title wheel of fortune. The story of what he has done is one of special interest to the person of average means who is inspired by the desire to acquire a forest as a dollar and cents investment or as an estate which he may hand down to his children as the creation of his own efforts and foresight. Here is Mr. Gilbert's story as told by himself:

"About five years ago I noticed a particularly fine growth of young pine in one of the valleys of Otsego County. Investigation bore out the fact that no fires had ravaged this section, because of the natural barrier of two lakes which were connected by means of a channel, making a long water barrier, a natural fire-line, as it were.



**THE ONLY CABIN ON THE TRACT**

Beautifully located, this cabin is in constant use and the rentals from it have more than paid the taxes on the entire tract of 267 acres.



**A BIT OF LAND,  
AND SEA, AND SKY**

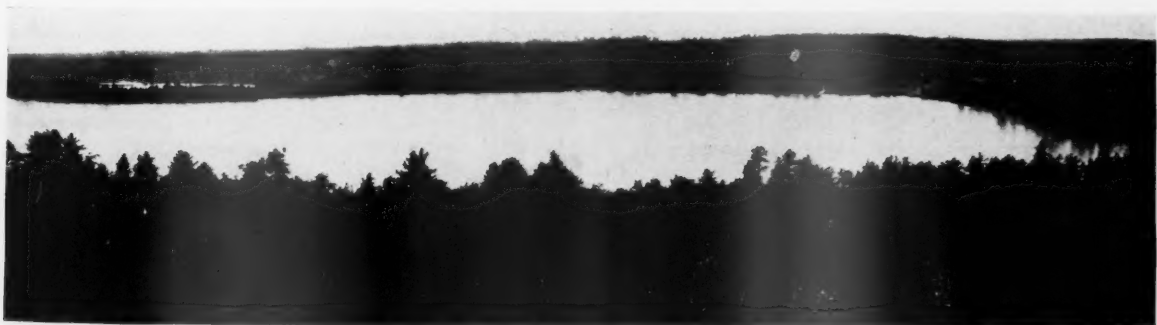
white-pine trees, second growth, to be sure, but many of them two feet and more in diameter breast high. The lumbermen cut nothing but the very best and largest trees 45 years ago, and these were just under the limit at that time.

"At the annual tax sale, held at the county seat beginning on the first Tuesday in May, I had a local attorney bid in these lands for me. By paying the tax for the year

it went delinquent, I obtained title to each description I had selected. After going through the required procedure, the State of Michigan gave me a deed to the property sold for taxes. The average cost per acre was eight cents. The actual expense of obtaining several forties, exclusive of the cost of back taxes, was as follows:

Attorney fees and expenses.....	\$7.25
Proof of service, made on the original owner of land by sheriff of county.....	.85
Recording deed and proof of service, register of deeds .....	1.25
Total .....	\$9.35

In three years I acquired in this manner a total of 267 acres, surrounding two beautiful lakes girt round with tall pines and a dense undergrowth of young pine coming in under the older trees. The lakes teem with fish and the bottom is of the finest white sand. I built a one-roomed cabin in which to keep tools needed for operating the forest and proceeded to clean up the forest floor. All



**LAKE GUTHRIE, ON THE LAKE GUTHRIE FOREST RESERVE**

This is Mr. Gilbert's "tax-title" forest. The supposed worthless land lying around this lovely lake was "sold for taxes," but fortunately acquired by a man with a far-seeing eye, who is giving the forest a chance, helping it back by planting the barren areas and protecting it from fire.

dead and down stuff was piled for sorting and burning. Plow-lines were run in the forest west of the lakes and all fire hazards, such as windfalls, were destroyed. Cruises were made of the surrounding land adjoining the tract about the lakes and one other small piece was purchased outright from the owner to complete the blocking out of the forest and because it had an excellent growth of white oak. When it was large enough to operate on a scientific basis, I gave the tract a name—the Lake Guthrie Forest Reserve. A tourist from Detroit took a fancy to the surroundings, and the forester's cabin was rented to him for \$2.00 a day. He furnished his own blankets and food and vowed he'd never had a better vacation. He told others, and the cabin is constantly occupied from June 1 until November 30, the end of the deer-hunting season. The rental from this one cabin pays the taxes on the entire tract of 267 acres. It is

located on an island, so there is no danger of fire being set by careless campers and running to the mainland forests.

"Forty-two boom sticks, about half the number in the lake, were taken from the waters of the lakes and decked on a skidway on shore. These will be cut into lumber or otherwise utilized. They were the boom sticks that surrounded the logs cut 45 years ago, and because of their extreme length—many of them over 100 feet long—they were not cut into lumber. After lying in the water 45 years, they are now as sound as they were the day they were cut from the tree. Cold springs run into small rivers which meander throughout the forest and protect the trees from fires. The soil is worthless for anything but pine and white-oak culture. It is sandy and dry. But less than two miles away, in the hardwood cut-over lands, you will find the best potato soil in America. Not one acre of that land goes back for taxes. It is far too valuable. The importance of this section as a potato-producing center is emphasized by the federal report that Gaylord, the county seat of Otsego County, shipped 410 cars during the season of 1922. The average car contains 650 bushels of potatoes, which would indicate that the shipments from this point alone contained 266,500 bushels. Grain thrives on the hardwood lands also. But we are dealing now with the sandy pine lands.

"My home is in the village of Wayne, Michigan, near Detroit and 240 miles distant from the forest. The pro-

tection from fire, due to the natural barrier of lakes and the efficient fire patrol of the State Conservation Department, is such that I have no cause to worry about forest fires. At Wayne I have planted 50,000 seeds of the white pine (*Pinus strobus*) and in 1925 they will be ready for the field. They will be used to fill up the gaps caused by lack of seed trees on the old cut-over pine lands. Fifty thousand seedlings occupy a space approximately 30 feet by 30 feet. These young pines will be planted in the

field in rows six feet wide and the trees will be set six feet apart in the rows. This will cause them to grow tall and their lower branches will prune naturally. At about 20 years of age they will be thinned and the thinnings utilized in some manner, either in making lath, pulpwood, or some other form of by-product. The remainder will grow into tall, straight pines, shedding their lower limbs and making good, clean lumber, without knots.



**LAKE GUTHRIE FROM THE EASTERN SHORE**

Luxuriant forest growth will eventually wholly reclaim these "tax-title" lands, protected by the lakes and rivers, natural fire barriers, with which the country abounds.

"Thousands of acres are reverting to the State of Michigan annually for delinquent taxes. They are coming back in increasingly greater volume year by year. The state already has 92,000 of the 300,000 acres in Roscommon County. This is only 24 miles south of the Lake Guthrie Forest. About 26,000 acres went back to the state in July, 1923, alone. Mr. Albert Stoll, Jr., formerly Secretary of the Conservation Commission, states that if the five-year limitation upon delinquent tax land in that county were to expire now, the state would hold over half the land in the county. Now is the time to build a forest for your children. A good investment, too.

"Senator Couzens has the right idea when he states that the owner of young forest growth might hold it for five years and then sell it to somebody else, and that person might hold it for another five years and then sell it to somebody else. The growth of the timber would be enhancing the value of the property all this time. One owner does not have to hold it for the entire length of a forest's life-span. As his needs occur, he might sell at an enhanced price because of the increased size and value of the timber. Don't be afraid to engage in forestry. Constructive and helpful legislation will soon be passed, and if you grasp the opportunity now you can ride the crest of the wave. Your children will have something useful with which to occupy their vacation time and it will prove an aid to them and to their country, too."

# The Forestry Act

## As Passed by the Sixty-eighth Congress

H. R. 4830

AN ACT to provide for the protection of forest lands, for the reforestation of denuded areas, for the extension of national forests, and for other purposes, in order to promote the continuous production of timber on lands chiefly suitable therefor.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That the Secretary of Agriculture is hereby authorized and directed, in co-operation with appropriate officials of the various states or other suitable agencies, to recommend for each forest region of the United States such systems of forest fire prevention and suppression as will adequately protect the timbered and cut-over lands therein with a view to the protection of forest and water resources and the continuous production of timber on lands chiefly suitable therefor.

SEC. 2. That if the Secretary of Agriculture shall find that the system and practice of forest fire prevention and suppression provided by any state substantially promotes the objects described in the foregoing section, he is hereby authorized and directed, under such conditions as he may determine to be fair and equitable in each state, to co-operate with appropriate officials of each state, and through them with private and other agencies therein, in the protection of timbered and forest-producing lands from fire. In no case other than for preliminary investigations shall the amount expended by the Federal Government in any state during any fiscal year, under this section, exceed the amount expended by the state for the same purpose during the same fiscal year, including the expenditures of forest owners or operators which are required by state law or which are made in pursuance of the forest protection system of the state under state supervision and for which in all cases the state renders satisfactory accounting. In the co-operation extended to the several states due consideration shall be given to the protection of watersheds of navigable streams, but such co-operation may, in the discretion of the Secretary of Agriculture, be extended to any timbered or forest producing lands within the co-operating states.

SEC. 3. That the Secretary of Agriculture shall expend such portions of the appropriations authorized herein as he deems advisable to study the effects of tax laws, methods, and practices upon forest perpetuation, to co-operate with appropriate officials of the various states or other suitable agencies in such investigations and in devising tax laws designed to encourage the conservation and growing of timber, and to investigate and promote practical methods of insuring standing timber on growing forests from losses by fire and other causes. There is hereby authorized to be appropriated annually, out of any money in the Treasury not otherwise appropriated, not more than \$2,500,000, to enable the Secretary of Agriculture to carry out the provisions of sections 1, 2, and 3 of this Act.

SEC. 4. That the Secretary of Agriculture is hereby authorized and directed to co-operate with the various states in the procurement, production, and distribution of forest-tree seeds and plants, for the purpose of establishing wind breaks, shelter belts, and farm wood lots upon denuded or nonforested lands within such co-operating states, under such conditions and requirements as he may prescribe to the end that forest-tree seeds or plants so procured, produced, or distributed shall be used effectively for planting denuded or nonforested lands in the co-operating states and growing timber thereon: *Provided*, That the amount expended by the Federal Government in co-operation with any state during any

fiscal year for such purposes shall not exceed the amount expended by the state for the same purposes during the same fiscal year. There is hereby authorized to be appropriated annually, out of any money in the Treasury not otherwise appropriated, not more than \$100,000, to enable the Secretary of Agriculture to carry out the provisions of this section.

SEC. 5. That the Secretary of Agriculture is hereby authorized and directed, in co-operation with appropriate officials of the various states or, in his discretion, with other suitable agencies, to assist the owners of farms in establishing, improving, and renewing woodlots, shelter belts, windbreaks, and other valuable forest growth, and in growing and renewing useful timber crops: *Provided*, That, except for preliminary investigations, the amount expended by the Federal Government under this section in co-operation with any state or other co-operating agency during any fiscal year shall not exceed the amount expended by the state or other co-operating agency for the same purpose during the same fiscal year. There is hereby authorized to be appropriated annually out of any money in the Treasury not otherwise appropriated, not more than \$100,000 to enable the Secretary of Agriculture to carry out the provisions of this section.

SEC. 6. That section 6 of the Act of March 1, 1911 (Thirty-sixth Statutes at Large, page 961), is hereby amended to authorize and direct the Secretary of Agriculture to examine, locate and recommend for purchase such forested, cut-over or denuded lands within the watersheds of navigable streams as in his judgment may be necessary to the regulation of the flow of navigable streams or for the production of timber and to report to the National Forest Reservation Commission the results of such examination; but before any lands are purchased by the commission said lands shall be examined by the Secretary of Agriculture, in co-operation with the Director of the Geological Survey, and a report made by them to the commission showing that the control of such lands by the Federal Government will promote or protect the navigation of streams or by the Secretary of Agriculture showing that such control will promote the production of timber thereon.

SEC. 7. That to enable owners of lands chiefly valuable for the growing of timber crops to donate or devise such lands to the United States in order to assure future timber supplies for the agricultural and other industries of the state or for other national forest purposes, the Secretary of Agriculture is hereby authorized, in his discretion, to accept on behalf of the United States title to any such land so donated or devised, subject to such reservations by the donor of the present stand of merchantable timber or of mineral or other rights for a period not exceeding twenty years as the Secretary of Agriculture may find to be reasonable and not detrimental to the purposes of this section, and to pay out of any moneys appropriated for the general expenses of the Forest Service the cost of recording deeds or other expenses incident to the examination and acceptance of title. Any lands to which title is so accepted shall be in units of such size or so located as to be capable of economical administration as national forests either separately or jointly with other lands acquired under this section, or jointly with an existing national forest. All lands to which title is accepted under this section shall, upon acceptance of title, become national forest lands, subject to all laws applicable to lands acquired under the Act of March 1, 1911 (Thirty-sixth Statutes at Large, page 961), and amendments thereto. In the sale of timber from national forest lands acquired under this section preference shall be given to applicants who will furnish the products desired



therefrom to meet the necessities of citizens of the United States engaged in agriculture in the states in which such national forest is situated: *Provided*, That all property, rights, easements, and benefits authorized by this section to be retained by or reserved to owners of lands donated or devised to the United States shall be subject to the tax laws of the states where such lands are located.

SEC. 8. That the Secretary of Agriculture is hereby authorized to ascertain and determine the location of public lands chiefly valuable for stream-flow protection or for timber production, which can be economically administered as parts of national forests, and to report his findings to the National Forest Reservation Commission established under the Act of March 1, 1911 (Thirty-sixth Statutes at Large, page 961), and if the commission shall determine that the administration of said lands by the Federal Government will protect the flow of streams used for navigation or for irrigation, or will promote a future timber supply, the President shall lay the findings of the commission before the Congress of the United States.

SEC. 9. That the President, in his discretion, is hereby authorized to establish as national forests, or parts thereof, any lands within the boundaries of Government reservations, other than national parks, reservations for phosphate and other mineral deposits or water-power purposes, national monuments, and Indian reservations, which in the opinion of the Secretary of the department now administering the area and the Secretary of Agriculture are suitable

for the production of timber, to be administered by the Secretary of Agriculture under such rules and regulations and in accordance with such general plans as may be jointly approved by the Secretary of Agriculture and the Secretary formerly administering the area, for the use and occupation of such lands and for the sale of products therefrom. That where such national forest is established on land previously reserved for the Army or Navy for purposes of national defense the land shall remain subject to the unhampered use of the War or Navy Department for said purposes, and nothing in this section shall be construed to relinquish the authority over such lands for purposes of national defense now vested in the Department for which the lands were formerly reserved. Any moneys available for the maintenance, improvement, protection, construction of highways and general administration of the national forests shall be available for expenditure on the national forests created under this section. All receipts from the sale of products from or for the use of lands in such national forests shall be covered into the Treasury as miscellaneous receipts, forest reserve fund, and shall be disposed of in like manner as the receipts from other national forests as provided by existing law. Any person who shall violate any rule or regulation promulgated under this section shall be guilty of a misdemeanor, and upon conviction thereof shall be fined not more than \$500 or imprisoned for not more than one year, or both.

Approved, June 7, 1924.



## Relic of the Washington Elm

A BLOCK of wood from the historic old elm tree under which George Washington first took command of the American Army has been presented to the American Forestry Association by Mayor Edward W. Quinn, of Cambridge, Massachusetts.

This relic of Revolutionary fame fell to the ground on October 26, 1923, after having stood as one of the symbols

of American freedom for nearly two centuries. The life of the tree has been estimated at 204 years.

The mayor of Cambridge has sent a piece of the trunk of the tree to each state and possessions of the United States. Plans are under way for the erection of a monument to perpetuate the memory of the old Washington elm.

## Treed by a Razor-Back

[Continued from page 421]

"I started down that mountain, making from about ninety to nothing, saying to myself that I would rather outrun a man-eatin' razor-back than freeze to death on the limb of a tree. I tore up the woods for about fifty yards, I reckon, when my left foot caught on a log or something, and the next thing I knew I was rolling down the side of the mountain and landin' in a hole of water about a foot deep, right on my head; but, believe me, I wasn't long in getting out of there, while I was lookin' for that wild hog to rip me up the back any minute. After running until my wind was clean gone, I stopped to listen, and, say, I wasn't a bit sorry when I found I had given her the dodge. 'T'weren't surprisin' she couldn't follow me, for I reckon I zigzagged through that timber like a

splinter off a bolt of wicked lightnin'. By that time I was clean lost; didn't know one direction from another or which way to go for my coat and outfit. Besides it was too near that old hog. About 11:30 that night I dragged in home as hungry as a dog and almost frozen to death.

"Next morning I went back after my coat and outfit, but you bet I didn't go without a gun. If I had seen that old hog I reckon I would have perforated her old hide a little, but I didn't happen to run across her. Outside of saving souls, I do not believe a man can do a more noble work than to try to save the timber of our country, but it ain't much fun being run by a razor-back hog. Ain't seen any of them critters out West here, and that makes fighting forest fires pretty nice."

# A Famous Tree of Mexico

BY JAMES RICALTON

THE late report that this historical tree is in such condition that its removal *in toto* to a museum is being seriously considered, takes us for a moment into the history of the conquest of Mexico. None can forget the dreadful disaster which befell the Spanish army in attempting to cross the causeway on its retreat from the capital. Cortés decided to evacuate the long causeway at midnight in a drizzling rain. It is difficult to secrete a moving army. The Mexicans were aroused and fell upon the Spaniards on every side. There were no bridges over two of the open canals. These could not be crossed until blocked with dead and dying, amid the wreck of the submerged baggage trains. For hours the chaos and carnage continued. It was well nigh a Waterloo for the brave leader, who was among the first to emerge from the gruesome human abattoir.

On the following morning Cortés seated himself under a wayside tree to witness the shattered, blood-stained remnant of his army file by. It is said his brave heart was broken and he wept. A credible tradition, with the apparent verity of a historic fact, still designates a venerable time-worn tree as that under which Cortés wept. The night of the disaster on the causeway, in which it is estimated that between four and five thousand men were sacrificed, has been known ever since as the "Noche Triste," the "night of sorrow," or the "melancholy night"; and the tree under which Cortés wept is called the "Noche Triste Tree," or, in the language of the country, "*arbol de la noche triste*."

The sanguinary and disastrous retreat from Tenochtitlan, as the City of Mexico was called under the Aztecs, only twenty-eight years after the discovery of America, nearly four centuries ago, is sacredly commemorated by this much-honored, law-defended cypress tree. It is probably the only living witness of the horrors of the Spanish conquest. It is the deciduous cypress of American conifers, always an emblem of mourning, and a common tree in the cemeteries of the east. This historic tree for centuries has been parting with its branches and its



MEXICO'S "TREE OF SORROW"

wood to meet the desecrating demand of relic maniacs. As late as 1872 it was much injured by fanatical Indians, who tried to destroy it by fire. Now it is watched by caretakers; it is nursed by professional horticulturists in an attempt to prolong its life; it has been surrounded by an iron rail made from the shackles and chains and instruments of torture used during the Mexican inquisition; and now those who attempt to profane this historic, time-honored, arboreal patriarch are punished by the law.

## A Tribute to a Tree

IN a speech recently delivered in the House of Representatives, dealing with forest devastation in America, Martin L. Davey, Congressman from Ohio, cited a beautiful tribute to a tree. Mr. Davey said that on the occasion of his addressing the Rotary Club of Elyria, Ohio, the President of the Club introduced him with this story:

"I have the most wonderful tree in the world out at my house. Some fifteen years ago I had a little boy who was then three years of age. In the early fall he would go out to gather up the buckeyes.

"The little fellow would gather the buckeyes, sometimes by pocketfuls and sometimes by basketfuls, and would bring them in and play with them. One day he took sick. The next day he was better, so he went out as usual and brought in just one large, fine buckeye and played with it; and the next day he died."

After a little pause he continued:

"I took that large, fine buckeye and carried it with me all the long winter. I took it out every little while and looked at it and was reminded of him. And then, when the springtime came, I went out and planted it down under his sand pile. Later the sand was taken away, and the buckeye sprouted and came up, a healthy little plant. Then I built a fence around it to protect it, and I called the boys of the neighborhood together and told them the story. I asked them to help me protect this tree. I told them they might break anything else I had—the windows in my house, my automobile, or anything else—but please don't break this tree. They have respected that request, and the tree stands there today 15 years old, a healthy young specimen, the most wonderful tree in the world to me."

It seemed to me, as I listened to this story, that there is in this living tree not alone a monument to a little boy who died, but also a monument to a father's love.

# Rock Oak Forestry Camp For Older Scouts

By S. N. SPRING

ON A RIDGE overlooking Spruce Pond, alongside Wildcat Mountain, in the extreme southwest corner of the Interstate Palisades Park, near Tuxedo, New York, is a camp, newly built in 1923 for selected older Scouts from New York City and vicinity. This is a spot where some of our future citizens are learning to understand the forest and to do useful forest work that will forever fix in their minds the vital place which forests occupy in the social and industrial welfare of the nation. It is the tangible expression of the plan of the Boy Scout Foundation of Greater New York to spread wide among Scouts the knowledge of wise and effective means of building up our forest resources.

The new camp is a part of the huge

tion felt the necessity of bringing to a select group of Scouts—one group for each month—a knowledge of what the forests mean to the country.

The work is entirely in the open, is specific, and is featured by practical instruction under foresters of recognized standing. Dr. B. T. B. Hyde, of the Museum of Natural History in New York, has had direct charge of the broad educational plan. An advisory board was constituted, consisting of Dean Henry S. Graves, of the Yale Forestry School; Herbert A. Smith, Assistant Forester of the U. S. Forest Service, and Prof. S. N.

Spring, of the Department of Forestry of Cornell University, who was resident Educational Director at the Forestry Camp. Instruction



Boy Scout Camp in the Interstate Park near Kanohwahke Lakes. Preliminary education was begun with the establishment of the camp—the largest of its kind in the United States—in 1917.

In 1923 a total of 16,000

Scouts were in camp, by two-week periods, during the two months. A badge for forestry has always been one of the emblems which could be won under the Merit Badge system used by the organization to encourage voluntary education among its members. Now the number of boys who have taken a keen interest in forestry has grown to such an extent that the Boy Scout Founda-

UNDER THE AUSPICES OF THE BOY SCOUT FOUNDATION OF GREATER NEW YORK, THESE LADS ARE ENJOYING THE BENEFITS OF CAMP LIFE AND LEARNING AT FIRST HAND TO UNDERSTAND THE FOREST AND ITS VITAL PLACE IN OUR NATIONAL LIFE

was given by Professor Spring, by Camp Director French and his assistant, and by the assistance of members of the Kanohwahke Museum staff.

"Uncle Bennie" Hyde, known to thousands of Scouts, put his whole heart

into this project and consulted with many foresters and heads of forest schools in the spring before adopting the plan put in effect. "I did this," he said, "because I wanted the boys to have a real course of practical instruction, not merely summer recreation." The results have amply justified his plan. The Scouts found real pleasure in the work and took pride in doing it well. "Why can't



we do some of these things in our Scout troop at home?" said one of them. "You can," said the director. "That's just what we would like to see." Every one of these boys went back with a new and real appreciation of the forest.

#### WHAT THE SCOUTS WERE TAUGHT

"What I want to do," said the director of instruction, "is to put real jobs before real boys such as these." The group found new knowledge in the first real job, right at the camp itself. Instruction in the use of the ax and the two-man cross-cut saw, in building trails, in methods of camp improvement, and the like occupied a half day a week. Each Scout was proud of the ax that was given to him, joyfully labored to "hang" it properly, and kept a keen edge on it. Scouts learned also in the camp work how to build a dock and a stand for canoes, how to run a traverse board and to make a map of camp.

However, the work day was principally in the forest, both near the camp as well as miles away, in other parts of the park. Major Welch, general manager of the Palisades Interstate Park, and his forester, R. D. Adolph, co-operated heartily and assisted by furnishing instruments and facilities for the work.

The opening day called for examination by the Scout headquarters' doctor and for getting settled in the fine, big tents—six scouts to a tent. In the afternoon came the first field trip to the top of Wildcat Mountain, just southwest of camp. There the

them of the rocks and soils. Next came acquaintance with the forest, not just teaching names of trees, but a study for several days of forest types. On three sides of Spruce Pond is a typical forest swamp. The Scouts studied the soil, the forest floor, the liv-



TIMBER ESTIMATING AT THE  
ROCK OAK CAMP

ing plants on the ground, the principal shrubs, and all the trees growing there. Here are to be found the typical spruce and tamarack of the bog; there the indicator tree of the swamp, the black ash, and its companion, red maple. "Do any of these trees grow on the well-drained slope?" The question was answered by studying the lower slope, upper slope, and ridge forests with equal care, and the characteristics of each tree and its uses were noted. The idea was to learn the trees in their natural habitat and connect just as many facts of the life history as



DR. B. T. B. HYDE, BETTER  
KNOWN AS "UNCLE BENNIE"  
TO ALL BOY SCOUTS

geologist from the Museum staff showed the boys the topography and drainage of the region, located the principal points on the map, gave them a history of the region in its geological development, and told

possible with the tree where it is naturally found.

At camp an excellent little library of books loaned by the New York State College of Forestry at Syracuse, and publications sent from the U. S. Forest Service, the New York State Conservation Commission, and Cornell University, aided the boys in fixing facts in mind and notes in their books. Instruction on any one day lasted from 8:00 to 12 a. m. and from 1:00 to 4:00 p. m., the program being varied to meet the caprices of the weather or other conditions. In their work the Scouts are like Lord Jeffrey Amherst of the song: "And he conquered all the enemies that came within his sight, and he looked around for more when he was through." "They eat up work," is the way the camp staff express it.



DEEPLY ENGROSSED IN THE  
ART OF MAPPING

## LEARNING ABOUT FIRE PREVENTION

Another subject receiving attention at the camp was protection of the forest from fire, fungi, and insects. Much emphasis was laid on prevention of fires. A trip was made to the top of Bald Mountain. There the park's observation tower was climbed and the method of quick detection of fires explained. A study was made of equipment of such a station, how it was used, and an inspection made of the connecting telephone lines. The Scouts were greatly interested in sighting on a smoke in a nearby valley and learning how an observer on this tower and one on Jackie Jones Mountain could exactly locate it by sighting across the map and finding the point of intersection of these lines of

sight, after telephoning to each other regarding its location. The causes and kinds of fires were explained, as well as methods of prevention particularly adapted to this region. The forest trees bear mute evidence of past fires in this region by their scarred butts, and the Scouts made studies of such damage. Diseases and insects, such as the white-pine weevil, held the attention of the boys, who collected material, found the cause, and learned the life history of several insects.

In protecting forests from fire, all Scouts can give real assistance. They are being used for fire-fighting in Pennsylvania and elsewhere; hence the significance of instruction in fire-prevention in this camp.

## WISE USE OF THE FOREST

The Scouts learned the broad usefulness of the forest while studying the types. They learned the economic value of the different kinds of trees while identifying them in the natural sites. The protective value of the forested watersheds was explained, and they knew the recreational uses without telling them.

A field trip, to follow the logs from the stump through the mill, was next in line. This was a study of the economic use of timber and of the careful improvement cuttings made by Forester Adolph. They learned to scale logs, to measure felled trees, as well as to know the operation of small mills.

From measurement of felled trees they advanced to estimating standing trees, making in camp themselves an instrument for measuring heights. Following this came

estimates of small bodies of timber by simple methods.

This naturally led up to the care and improvement of forests by cleanings, thinnings, and the like. A demonstration area was marked out in young woods near Kanohwahke Lakes, where a thinning was then made by the Scouts. Next to it another plot for comparative purposes

has been left untouched, but with its boundaries marked. Finally, one small tract of forest was estimated and studied in relation to its management under forestry practice.

## REFORESTATION

Along the Ramapo River, near Southfields, not far from camp, are some excellent plantations of red pine and white pine set out by the Park Com-

mission about 1914. Here was the place to study growth and learn at first hand about making idle land profitable. With trees furnished by the Commission and by Cornell, the Scouts made a plantation of their own near Kanohwahke Lakes and mapped out the area. Nearby, along the State Road, they set a beautiful memorial pine for the late President. The ceremony was brief and impressive.

Limit of space prevents the telling of details of other phases of instruction, of the collecting of specimens, the preparation of an exhibit of native woods, wood identification, etc. The whole instruction was wonderfully supplemented by weekly movie reels from the State Conservation Commission and the U. S. Forest Service and by slides loaned by the Federal Service.

## SCOUTS DEVELOP CHARACTER

The most significant feature of the camp is least disclosed by the account of the instruction; but rather by the development the boys showed. One should see them: erect bearing; clear, healthy, brown complexion; clean talk; good humor and a zest for work and play alike. There were few set rules, but much unwritten law. It has largely been self-government. All of the staff were interested in developing each boy, and, with a quota of forty as the maximum number, personal guidance was effective.

Excellent discipline without rigid rules was possible under Camp Director George E. French, Syracuse graduate in the College of Forestry and Lacrosse player of note, who loves boys, and by his own high standards led

[Continued on page 446]



ONE OF THE FIRST LESSONS THE BOYS RECEIVE AT THE FORESTRY CAMP IS IN HANGING AND SHARPENING THEIR AXES



About one-third of Davey Organization in Convention at Kent

JOHN DAVEY

Father of Tree Surgery  
Reg. U. S. Pat. Off.

## A study in human values

In the photograph above you see about one-third of the organization of Davey Tree Surgeons—in annual convention at Kent, Ohio, March 3rd to 8th, 1924. Quality personal service depends not only on skill and training but on *character*. Study the faces of these men—would you not instinctively trust them? Would you not judge them to be men of real character? Read below the wonderful tributes to these master Tree Surgeons.

### "So rare in these times"

Your men seemed to take unusual interest in the work—so rare in these times. You are to be congratulated on having so fine a corps of men—no doubt due to your efficient training.

H. M. TAYLOR, Brookline, Mass.

### "Courteous and gentlemanly"

Your men were very courteous and gentlemanly and we feel that you are to be congratulated in having such a type of boys to send out to do the work for you.

W. H. WING, Holland, Mich.

### "Source of much satisfaction"

The young men engaged in the work were most courteous and considerate and it is a

source of much satisfaction to do business with a company like yours.

G. E. CRAWFORD, Board of Commissioners,  
City of Mobile, Ala.

### "Clean, active young Americans"

In the foreman who did our work your company has a conscientious, hard working young man; self-reliant and of excellent judgment; one who has the best interests of both his company and patrons at heart. Those under him are clean, active young Americans—all interested in their work, a virtue rare in these days.

DAVID GARDINER,  
Sagtikos Manor Farm, Bay Shore, L. I.

### "A great joy to me"

The skill and courtesy of your men was a

great joy to me, and a marvel to those who had never seen this work done before. Again, as with the work done for me last year, I must say you have sent me most excellent workmen.

MRS. DORMAN BALDWIN, Oneonta, N. Y.

### "Greatest thoroughness and care"

Your representatives showed very thorough practical knowledge, and what they did was done with the greatest thoroughness and care. I cannot speak too highly of them.

G. B. RIVES, Cobham, Virginia

Davey Tree Surgeons are local to you; they live and operate in your vicinity—any place between Boston and Kansas City. Write or wire nearest office.

THE DAVEY TREE EXPERT CO., Inc., 209 City Bank Bldg., Kent, Ohio

Branch offices with telephone connections: New York, Astor Trust Bldg., Fifth Ave. and 42nd St.; Albany, Volckert Bldg.; Boston, Massachusetts Trust Bldg.; Philadelphia, Land Title Bldg.; Baltimore, American Bldg.; Pittsburgh, 331 Fourth Ave.; Buffalo, 110 Franklin St.; Cleveland, Hippodrome Bldg.; Detroit, General Motors Bldg.; Cincinnati, Mercantile Library Bldg.; Louisville, Todd Bldg.; Indianapolis, Lombard Bldg.; Chicago, Westminster Bldg.; St. Louis, Arcade Bldg.; Kansas City, Scarritt Bldg.; San Francisco, Hobart Bldg.; Montreal, 252 Laugachetiere, West.

## DAVEY TREE SURGEONS

Every real Davey Tree Surgeon is in the employ of The Davey Tree Expert Co., Inc., and the public is cautioned against those falsely representing themselves. An agreement made with the Davey Company and not with an individual is certain evidence of genuineness. Protect yourself from impostors. If anyone solicits the care of your trees who is not directly in our employ, and claims to be a Davey man, write headquarters for his record. Save yourself from loss and your trees from harm.

Mention AMERICAN FORESTS and FOREST LIFE—It Helps



# Outdoor Recreation Flashes into National Importance

[Continued from page 410]

the possibility of transfer of such lands to National Park Service, Forest Service, or to the states concerned, provided the specific areas fit themselves properly to use of these agencies.

"That the conference recognize the desirability of setting up a continuing body, perhaps of the commission form, centered, as now, in the President's Cabinet, and having as its function the investigation of problems of federal land policy so far as they relate to recreation, and the consideration of measures to secure in practice that continuity and harmony of policy in the administration of federal lands for recreational purposes which is the desire of all the interests concerned."

## SURVEY AND CLASSIFICATION OF RECREATION RESOURCES

"That there should be a complete and comprehensive survey and classification of all recreational facilities and resources, both public and private, for the entire country.

"That in the development of public reservations of recreational importance adequate systems of roads and trails connecting these reservations be provided."

## STATE PARKS AND FORESTS

"We urge upon our governments—local, county, state, and national—the acquisition of land and water areas, suitable for recreation and preservation of wild life, as a form of the conservation of our natural resources, until eventually there shall be public parks, forests, and preserves within easy access of all the people of our nation, and also to encourage the interest of non-governmental agencies and individuals in acquiring, maintaining, and dedicating for public use similar areas.

"The enactment of legislation, including adequate appropriations, and the adoption of policies which will insure recreation, a wild park in which the native vegetation is absolutely protected.

"That laws to uphold private owners in the protection of such plants as dogwood, mountain-laurel, holly, and other valuable native vegetation should be enacted by all the states.

"That we recognize the great need of a National Arboretum and Botanical Park and we urge that in this institution, when established, special consideration be given to the protection of our native plants and to the development of an adequate knowledge of their care and propagation for purposes of public education and recreation."

## BIRDS

"That the greatest problem in connection with wild bird conservation today is the provision of an effective system of education on a scale greater than any hitherto attempted and the enlisting of the assistance of all available agencies, including the press, the screen, and the radio.

"That the principal practical problems of

the immediate future are better enforcement of existing laws, strengthening the statutes in certain states, and constant watchfulness against loss of ground already won.

"That the importance should be emphasized in the administration of bird laws, of basic surveys and inventories, of consideration of local conditions in the regulation of bag limits, of sanctuaries in connection with all public shooting grounds, and of expert personnel."

## GAME AND FUR-BEARING ANIMALS

"That effort should be continued for the preservation of game animals through propagation, refuges, public shooting grounds, prevention of destructive practices, non-sale regulations, bag limits, licensing systems, special funds, and other methods.

"That special emphasis should be laid upon improvement and development of methods through non-political state game commissions with trained personnel, long tenure of service, and broad administrative power; through conservation and reclamation of natural breeding or feeding grounds; through statistical surveys; and through efforts to obtain greater co-operation between state and private organizations interested in game.

"That campaigns of extermination against predatory animals should be discouraged, except as authorized by experts under state or federal control.

"WHEREAS, the efficient administration of wild life depends upon a detailed and accurate knowledge of the animals concerned:

"Resolved, That all sportsmen should co-operate with museums or other scientific institutions and, so far as possible, make the results of their hunting available for study, research, and permanent record.

"WHEREAS the decrease of hunting grounds, the rapid increase of hunters, liberal killing privileges, and other destructive influences are now operating to diminish and exterminate game birds, animals, and fishes:

"Resolved, That steps should be taken promptly to secure reductions in bag limits and open seasons, which will reduce the annual volume of game-killing, both migratory and non-migratory, by large amounts, where necessary.

"That the wild life on unreserved public lands should be administered where possible by the Federal Biological Survey."

## FISH

"WHEREAS fisheries and aquatic resources are of very great importance as a source of food supply and as a means of providing health-giving recreation to all classes of citizenry; and

"WHEREAS these aquatic resources have been dangerously depleted and are further threatened by stream pollution: Therefore be it

"Resolved, That scientific investigation, furnishing a sound basis for the administration of all fishery resources, be further encouraged by federal, state, and private agencies.

"That propagation, stocking, and rescue operations in public and private waters be greatly encouraged and enlarged.

"That legislation is urgently needed, especially with respect to the uniformity of state laws, boundary waters, and anadromous fishes, such as salmon, striped bass, shad, and sturgeon.

"That federal legislation should be secured stopping the interstate sale and shipment of black bass.

"That recognition should be taken of the fact that federal and state appropriations for fisheries work have not kept pace with the growing needs of the country."

## POLLUTION AND DRAINAGE

"WHEREAS increasing industrial expansion results in the exceedingly dangerous and destructive pollution of rivers and coastal waters, thereby rendering them uninhabitable to aquatic life of all useful kinds, seriously impairing shore bathing, and materially restricting possibilities for recreation through the accumulation of oily wastes; and

"WHEREAS the menace from fire hazard from floating oily wastes extends beyond the control of the nation and involves also the high seas; be it

"Resolved, That solution of the problem must be sought, first, by educating public opinion to bring about co-operation of all corrective influences; second, by securing detailed information concerning the extent, sources, and nature of pollution; third, by encouraging technical investigation of exact conditions and means for transforming noxious into harmless substances; and, fourth, to secure the adoption of corrective measures by national and state authorities; and

"WHEREAS the United States possesses 80,000,000 acres of swamp and overflowed land important for equalizing stream run-off by holding rainfall, and in many instances serving as the breeding grounds of fish and wild life; be it

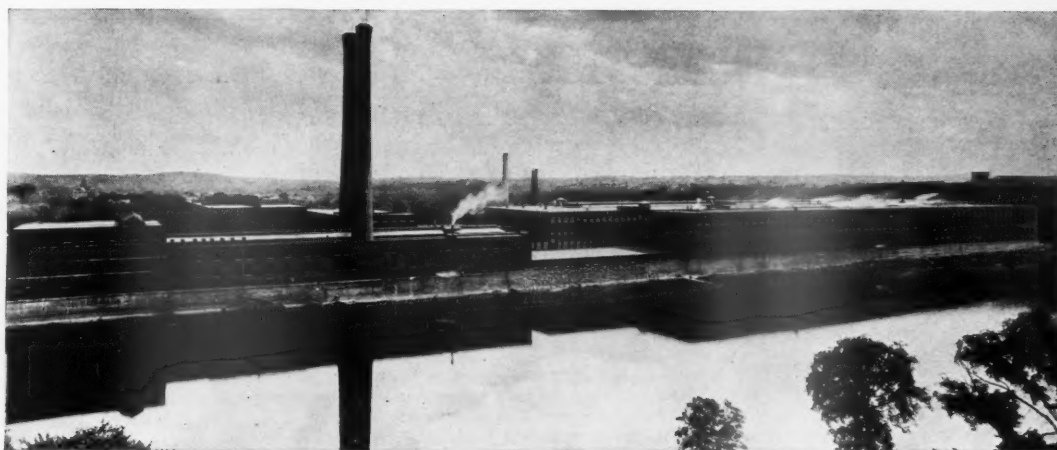
"Resolved, That indiscriminate drainage is to be deplored as a source of conspicuous waste, and that careful investigation should be made in advance of all drainage operations to determine resultant benefits and injuries."

Thirty addresses, by men eminent in their respective fields and dealing with every phase and problem of outdoor recreation, were made during the three-day session of the conference. Brief excerpts from a few of these addresses are given herewith.

"It is but a few short years since those frontier days, yet the Wilderness Trail, the Santa Fe Trail, the Mormon Trail, and the Oregon Trail, which were household words so short a time ago, are almost forgotten. In building the country, the pioneers also built our national character, for they gave to the Americans of today the hardy self-reliance, simplicity of outlook, and the initiative which form the bed-rock of our

[Continued on page 441]

→ Before you build a Factory or Warehouse - see Weyerhaeuser ←



PRINT WORKS DEPARTMENT, THE PACIFIC MILLS CO., SOUTH LAWRENCE, MASS.—Lockwood, Greene & Co., Engineers  
A modern group of buildings of the "Standard Mill Construction" type

## Three Reducible Items of Industrial Overhead

*A message to Business Men about Weyerhaeuser-Ideal Industrial Construction*

PROBABLY 50% of the industrial construction in 1924 is in position to take advantage of the Weyerhaeuser exhaustive researches into reducible industrial overhead.

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Save up to 15% on interest charges.

Save up to 75% on insurance charges.

The manufacturer who can control these three items will come closer to having the competitive situation in his own hands.

AS Weyerhaeuser points out in its study of industrial buildings, the typical industrial building of today adds a good deal more to the overhead of a business than it did prior to about the year 1900.

"Fireproof" has been a word to conjure with.

Yet the man who is planning to build a factory or warehouse today may well ponder the fact that the only successful, sizable concerted effort to reduce fires in American industry was carried out in buildings mainly of the "Mill Construction" type.

In one section of this country there are hundreds of great factories built of "Mill Construction," and protected by sprinkler system against inside fires, in which the losses from fire over a recent 3-year period have averaged

only 3½ cents per \$100 of insurance written.

IN BRINGING the above factors in to the light for the Industrial Man, Weyerhaeuser is aware that it has also assumed a responsibility that "Mill Construction" shall not be used when this type of construction is not suited to the purpose of the building.

For this reason, and in extension of its program of service, to American industry, Weyerhaeuser has inaugurated the *personal consultation service* by the Weyerhaeuser Expert Construction Engineer.

In the same spirit of enlightened lumber service, Weyerhaeuser has made a survey of its resources of great sound timbers for Industrial Construction.

The Douglas Fir Mills of the Weyerhaeuser organization are producing selected timbers of the finest possible wood for "Mill Construction" needs.

Through the Weyerhaeuser distributing plants in the heart of Eastern and Mid-Western markets, these timbers are laid down quickly and economically in every industrial section of this country.

RESPONSIBLE members of industrial concerns are invited to send for complimentary copies of the Weyerhaeuser books—"Industrial Buildings," written for the Business Man, and "Structural Timbers of Douglas Fir," a book for the Building Engineer, Architect, and Purchasing Agent.

### WEYERHAEUSER FOREST PRODUCTS SAINT PAUL • MINNESOTA



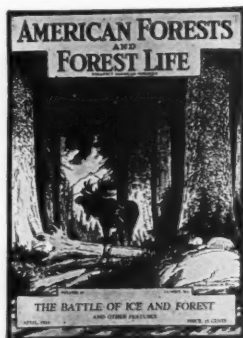
Producers for industry of pattern and flask lumber, factory grades for remanufacturing, lumber for boxing and crating, structural timbers for industrial building. And each of these items in the species and type of wood best suited for the purpose.

Also producers of Idaho Red Cedar poles for telephone and electric transmission lines.

Weyerhaeuser Forest Products are distributed through the established trade channels by the Weyerhaeuser Sales Company, Spokane, Washington, with branch offices at 208 So. La Salle St., Chicago; 220 Broadway, New York; Lexington Bldg., Baltimore; and 2694 University Ave., St. Paul; and with representatives throughout the country.

Membership in The American Forestry Association is open to any person interested in the perpetuation of our forests.

PLANT TREES  
PROTECT FORESTS  
USE FORESTS



This is the only Popular National Magazine devoted to trees and forests and the use of wood.

July, 1924.

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Date....., 1924

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## Trees As Court Witnesses

[Continued from page 403]

been in existence, as bearing on the dividing line, the Attorney General went deeply into the ages of trees which had grown up on these alluvial deposits. Ecological and physiographical testimony was brought forward to establish the life of the created lands.

Among the statements of expert witnesses heard along this line, especial interest attaches to the testimony given by Prof. Henry C. Cowles, professor of ecology at the University of Chicago. Professor Cowles testified as to the existence of land formed by accretion and the presence of trees thereon. He cited cottonwoods more than 45 years of age along a line of dunes which marked the river bank in 1875, as shown on Government maps. South of these dunes he found lines of dunes and younger tree growth of progressive character.

The growth of a cottonwood in these dunes is apt to involve tree and sand in a struggle for supremacy. The trees do not germinate on the top of the dunes, but start their growth before the dunes are formed. With the accretion of sand the trees grow through the accumulation. This growth is accompanied by the putting out of roots from the buried trunks, known to science as adventitious roots.

On Goat Island, one of the important pivotal points, Professor Cowles located cottonwoods as old as 70 years, marking the extreme age of the island at approximately 75 years. Seven trees more than 100 years of age were found on the flood-plain in the Big Bend area. One of these was a veteran pecan, agreed to be between 170 and 180 years of age, establishing the certainty that as far back as the record of the tree the surrounding land has been definitely established. Similar evidence was given as to the ages of elms growing on terranes slightly higher than the adjoining territory.

Professor Cowles described the tree growth in detail, showing that the cottonwoods determine where the dune shall be located, which subsequently makes it possible to determine the age of the formation. The initial place of sand dunes and of cotton-

woods is along the edges of abandoned channels, where they cause the deposit of sand to accumulate. This line of dunes and trees continues to maintain and mark the contour of the river channel for a long period of time. The elms, pecans, and hackberries grow further from the channel.

The value of tree growth as evidence of the existence of land areas was shown in cases in which the trees were found to be older than maps showing particular locations of the river banks.

Evidence that the trees very clearly indicate the age of the areas under consideration, and that the age of the oldest trees was the probable maximum age of the ground, was deduced from the lack of evidence in the Big Bend area of any preceding forest in the places occupied by the present trees. In connection with this deduction it was cited that in the many trees cut by the scientists, there was no indication of any central core of slow growth and suppression, which might have tended to show greater age for the trees than that recorded by the annual rings. In this way the trees were made not merely to establish the minimum age of the land, but an apparent maximum as well.

The decision as rendered by the Supreme Court is in the nature of a compromise of the claims of Texas and Oklahoma. Under the court ruling, a commission was appointed to determine a boundary along what is known as the south cut bank of the river.

"I have found the article 'Forest Crops as Railway Tonnage' very informative and full of food for thought. The points made are most timely. It is important that an intelligent system of reforestation should be generally formulated and followed in those territories where Nature needs only a little encouragement to give bounteous results. Your magazine is certainly a beautiful piece of craftsmanship and I have greatly enjoyed reading the articles in the current issue."

—C. H. Markman, President, Illinois Central Railroad, Chicago.



## Outdoor Recreation Flashes into National Importance

[Continued from page 438]

national greatness. This is the spirit bred of life in the open.

"We have had a great material development in the last few decades. We have created for ourselves creature comforts that were not imagined by our fathers. Comforts are excellent, but we must not let them assume an undue importance in our scheme of existence. Softness of body too often predicates softness of soul. We are met here today at the call of President Coolidge, as I see it, to endeavor to aid in preserving for the people of our country that which made our national character—our out-of-doors."

\* \* \* \* \*

"At this time there are many hundreds of thousands of people, represented by you, who are working to this end. There are municipal and state organizations. There are bureaus and commissions in the Federal Government. It is proverbial that team play is necessary in order to obtain the best results. No amount of individual initiative or brilliancy makes up for lack of team play. We have not got team play now and our mission must be to create it.

"At this time, for instance, we have national parks and forests. We have state parks and forests, and even, in some parts of the northeast town forests. \* \* \*

"We must, therefore, work out a general national policy of mutual support and coordination among the federal, state, and pri-

vate endeavors, to adopt, so to speak, a set of signals for the team and assign positions. Any idea of usurping or federalizing functions now held by the state would, of course, be wrong and tend to defeat the ends for which we aim.

"Outdoor recreation and what it stands for concerns practically every one in our country."

THEODORE ROOSEVELT,  
Chairman of the Conference.

"It is, therefore, of the utmost importance that as the wave of so-called influence sweeps across the world, laying waste a large part of the great realm of our national resources, we protect for future examination some of the marvelous wealth of the life of the world which the infinite wisdom of the Creator has prepared for us through hundreds of millions of years of evolution."

JOHN C. MERRIAM,  
Director Carnegie Institution.

"National recreation cannot be solved by any one of these federal bureaus; it is an activity that must be considered with other lines of federal conservation. I believe it would be disastrous for the Federal Government to attempt to place recreation under one bureau, regardless of the different types of land involved. Every effort should be made, however, to utilize these agencies in every way possible in making more efficient the facilities of the various National reservations."

JOSEPH HYDE PRATT,  
American Forestry Association.



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# AROUND THE STATES

## TO INVESTIGATE KAIBAB DEER

Whether or not the deer in the Grand Canyon Game Preserve are threatened with disastrous losses due to overstocking is to be investigated this summer by a committee representing game and other organizations interested in wild-life conservation. The handling of the game on the Kaibab Plateau has become a much-mooted question. Last winter the proposal by the Forest Service and the Biological Survey that the killing of some 2,000 male deer be permitted, in order to avert the starvation of great numbers of the herd, brought protests from different quarters of the country. The proposal of the Forest Service and the Biological Survey was made after a joint study of game conditions on the ground, but exceptions were taken by a number of game conservationists.

In order that the question might be settled on its merits and in justice to the preservation of the herd, which now numbers some 20,000 deer, the Forest Service proposed that an independent committee make an investigation. John B. Burnham, President of the American Game Protective Association, is chairman of the committee. Other members are Howard Cutting, of the Boone and Crockett Club; W. C. Gary, of the National Parks Association; Hal Evarts, of the *Saturday Evening Post*; Albert W. Harris, of Izaak Walton League, and T. W. Tomlinson, of the American National Live Stock Association. The committee will make its investigation during August.

## WORST FIRE SEASON THREATENS WEST

One of the worst droughts in forty years has marked the spring months in the western United States. It has been exceptionally severe in certain parts of California, Oregon, and Washington, creating a bad fire season in the forest regions and a critical situation in stock and sheep grazing districts. The alarm on the part of the stock and sheep growers of California that they would lose numbers of their herds from starvation

resulted in a request that the national parks and the areas of the national forests closed to grazing should be opened to the stock and sheep suffering from the effects of the drought. With respect to throwing open the Yosemite and Sequoia National Parks to grazing, Secretary Work denied the request on the grounds that it was an established policy of the government to permit no grazing in the national parks, and that to permit it at this particular time would be exceptionally unwise, in that it might result in the wholesale infection of the wild life of the parks with the foot-and-mouth disease. The Forest Service had likewise refused to throw open its closed areas at the time this was written, taking the position that in its judgment the situation did not yet justify this action, although in the last emergency it was prepared to do everything possible to relieve the situation.

## COMMISSION TO STUDY FRENCH TURPENTINE METHODS

Secretary of Agriculture Wallace has appointed a Naval Stores Commission, to visit the southwestern section of France, known as The Landes, to study methods of turpentine and management of turpentine forests used by the French naval stores industry, with a view to their application to American conditions. The party will sail from New York on the *President Roosevelt* on July 9, and will spend three weeks in the Landes region.

J. T. Pace, of Pensacola, Florida, was named chairman of the commission, with the following commission personnel: Alexander K. Sessoms, president of the Southern Lands and Security Company, Cogdell, Georgia; Dr. Elbert P. Rose, naval stores operator, Valdosta, Georgia; O. H. S. Wiernicke, Pensacola Tar and Turpentine Company, Goldpoint, Florida; Wm. L. Barnett, President Florida Forestry Association, Mt. Dora, Florida; A. S. Carr, turpentine operator, Bainbridge, Georgia; W. L. Felder, turpentine operator, Valdosta, Georgia, and Austin Cary, forestry expert of the United States Forest Service.

## MORE FORESTS AND PARKS FOR THE NATIONAL CAPITAL

National interest has been aroused by the bill, recently passed by Congress, providing for the progressive development of forests, parks, and playgrounds in the District of Columbia. The rapidity with which numberless areas in the nation's capital have been stripped of their beautiful trees to make way for real-estate development has impressed thousands of visitors to Washington. The new bill is designed to keep Washington abreast with the demand for forest and park areas. It provides for a Park Commission, composed of the Chief of Engineers of the United States Army, the chairmen, respectively, of the Senate and House District Committees, the officer in charge of public buildings and grounds, the Director of the National Park Service, and the Director of the United States Forest Service.

Among the many projects which the new commission will have to consider are:

Transforming the Anacostia River marshes above Benning Bridge into a water park, and the adjacent Mount Hamilton into a national arboretum.

Acquiring the forest-covered valley and springs tributary to Rock Creek, to protect the creek from pollution and to preserve the flow of water.

Acquiring tracts on the outskirts at proper intervals for parks and playgrounds before these are built up and thickly populated, thereby increasing the cost.

Prevent the pollution of Anacostia River, and for the continued development of what is now known as Anacostia Park.

Besides these park developments, the plans include the further beautification of present parks, such as Potomac and Rock Creek parks, and for the proper extension of the National Capital park system into the environs of the District of Columbia by acquiring lands in Maryland and Virginia.

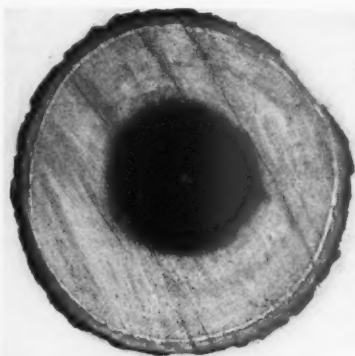
This would include the development of both banks of the Potomac River from Washington to Great Falls, to preserve the forests, the development of park boulevards

down the Potomac on the Virginia side to Mount Vernon and on the Maryland side to Fort Washington, along the bluffs overlooking the river.

### THE RED STAIN IN THE WOOD OF BOX ELDER

By E. HUBERT

A disease of the box elder, characterized by a bright red stain in the wood, has been under observation by pathologists at the Forest Products Laboratory since 1920. The stain is very frequently met with, and therefore popularly believed to be a fairly reliable character for the identification of box-elder wood. This red-stained wood has been found in many places in the United States, and what appears to be the same thing has been reported in a few places in Europe.



DRYAD'S BLOOD? NO, BUT THE DISCOLORATION, BRIGHT CARMINE RED IN COLOR IN THE FRESHLY CUT WOOD, LED TO THIS SUPERSTITION. THIS IS A TRANSVERSE CUT SECTION OF A BOX-ELDER BRANCH

The discoloration is found in all parts of the tree, from the roots to the smaller branches. Its vivid color lends some poetic faith to the belief held by the ancient Greeks, that it represented the heart blood of the dryads, tree spirits, or wood nymphs, who were killed with the cutting of the tree. Scientific curiosity and the use of the microscope have disclosed this "dryad blood" to consist of something very different.

It has been found that this red discoloration, common in heart-wood and to some extent in sap-wood, is due to the presence in the wood of a soluble red pigment produced by the colored threads of a fungus new to science and named *Fusarium negundi* Sherb. This fungus develops within the wood and derives its nourishment therefrom, but no evidence has yet been found to indicate that it decays the wood. It is classed as a wood-staining organism.

### GOVERNOR INITIATES FORESTRY MOVEMENT

An Honorary Arkansas Forest Commission has been appointed by Governor McRea as the first step in a proposed conservation program which it is hoped will maintain the state's rank in commercial timber acreage and production.

This is a formulative commission to study the forest resources and to suggest a working plan for conservation and reforestation, including legislation. J. R. Hamlen, a lumberman of Little Rock, is temporary chairman and will be in charge until a permanent organization is perfected. Dr. A. C. Millar, editor of the *Arkansas Methodist* and student of forestry problems, is temporary secretary. The personnel of the commission, which consists of about thirty members, includes many well-known lumbermen, among whom are A. Trieschmann, of Crossett; C. A. Buchner, Wesson; O. O. Axley, Warren, and D. V. Dierks, Dierks.

"We have millions of acres of land suitable only for timber-growing," said Governor McRea, "and, with the large acreage of cut-over land that can be reclaimed to forestry, we should be able under a practical program to maintain our forest resources in a perpetual state of production."

The governor is himself a practical forester on a small scale, having realized \$4,000 from the sales of two timber crops of fifteen-year intervals cut off a quarter section of land which he purchased originally for \$400.

### A NEW NATIONAL MONUMENT

On April 18, President Coolidge signed the proclamation establishing the Chiricahui National Monument in the Chiricahui Mountains, on the Coronado National Forest. The new monument is an area of about 5,000 acres, located in the Bonito and Jesse James Canyons, on the west side of the Chiricahuis. It contains a great number of rhyolitic rock formations eroded into peculiar shapes. The most typical formations are pillars of 6 to 26 feet in diameter and 50 to 200 feet high. There are also a number of balanced rocks, the largest of which has a base of five feet, is 25 feet in diameter, and 30 feet high. The national monument was set aside on recommendation of the Douglas, Arizona, Post of the American Legion, the Smithsonian Institution concurring. Plans have already been made by the supervisor of the Coronado to make this area more accessible through the construction of trails, part of which have recently been completed.

### MILLIONS OF TREES FOR PENNSYLVANIANS

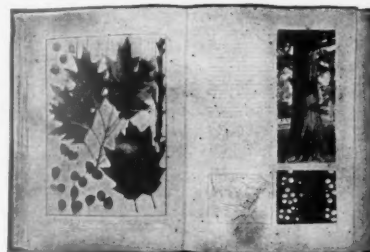
Secretary Stuart, of the State Department of Forests and Waters, announces that this spring approximately nine and one-half million trees were distributed from the nurseries operated by the department. This is a far greater number than



### AMERICAN WOODS

By ROMEYN B. HOUGH

Illustrated by sections of wood, three cuts for each tree.



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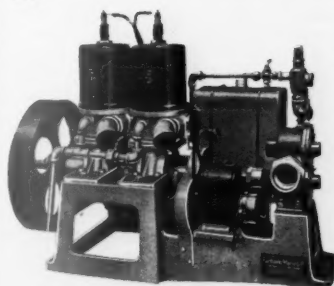
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have ever been shipped from the state nurseries in any one year. It is almost twice as many as were furnished to private land-owners in 1923 and three times as many as in 1922. The trees are distributed to private land-owners for timber production. The only charges made for these trees is the cost of packing and transportation. Officials of the department have figured out that this charge amounts to only about one cent for ten trees.

The trees shipped from the state nursery this spring will reforest about 10,000 acres of idle land, and when mature the trees will yield approximately 350 million board feet of fine lumber that is urgently needed by the people and industries of the state.

WHY PARK AREAS IN THE FOREST?

Mountain travelers through the southwestern United States have often asked why trees do not grow on the big, flat, grassy openings so often found in the midst of the excellent pine forests in that region. The question has finally been answered by the United States Forest Service, after a detailed study of soil and climatic conditions in these "park" areas. These parklike openings in the forest are on land filled in by erosion from surrounding hills in bygone ages. Some of them are filled-in lake beds. The investigators found that this fine alluvial soil remains saturated with water until late in the spring. This causes the seed to rot before germinating or the seedlings to drown because of lack of air in the soil. Should any seed get started it perishes later in the summer, when the soil becomes exceedingly hard and there is no available moisture for the roots. These park areas are also exposed to the full sweep of the wind, and they are also frost-pockets, where the seedlings have little chance to escape.



THE INDIAN GUARD

This was contributed by Mrs. Henry L. Taylor, of Globe, Arizona, who says: "This remarkable picture was taken on the Globe Division of Crook National Forest, in Superstition Mountains of Arizona, between Phoenix and Superior. These heads were accidentally discovered very early in the morning, and the picture was taken about 7 a. m. As the famous 'Lost Dutchman' mine is supposed to be in this vicinity, I named the picture 'Indian Chief and Squaw Guarding the Lost Dutchman.'"

WOOD A MILLION YEARS OLD

Wood a million years old, which makes that found in Tut-Ank-Amen's tomb seem like a product of yesterday, has recently been found in California, according to C. L. Hill, of the Forest Service. The wood in question was taken from five hundred feet underground, in a tunnel of the California-

Hawaiian Development Company in Long Canyon. The log was buried in the gravels of a Tertiary stream about twelve feet under the lava cap of the great flow which terminated the Tertiary Period. It is, therefore, a million years old, which makes all the more remarkable the fact that it is neither silicified nor disintegrated, except in the lighter springwood of some of its annual rings. A sample of the wood was sent to the Forest Products Laboratory at Madison and carefully examined under the microscope. It was found to have structure typical of some of the extinct species of Sequoia.

"The Wood-using Industries of North Carolina" is the title of Bulletin 30, which is just off the press from the North Carolina Geological and Economic Survey. The first paper on this subject published by the Survey came out in 1910.

During the investigation 155 of the more important wood-using plants of the state were visited, and, according to statements obtained from a majority of these industries, their greatest need at present is a supply of suitable timber to be used in their plants, and the manufacturers are now considerably worried over their future supply. The statement was made at nearly all of the industries visited that the quality of their wood supply was not nearly as good as it was ten years ago, and that they were having to go constantly farther away for what they did obtain. Representatives of at least one-third of these industries made the statement that their available supply of timber will be exhausted in ten or fifteen years.

HIGH-WATER MARK IN NEW YORK'S  
PLANTING

An analysis of all orders for trees for reforestation purposes received by the New York State Conservation Commission up to April 5 showed 1,145 orders, calling for 7,361,140 trees, the largest total ever received up to that date, and with orders still coming in large volume. By the last week in April this total had increased to nearly ten million trees. The analysis showed that the largest group of orders came from farmers and individual land-owners, who submitted 580 orders calling for 3,274,000 trees. This is more than half the total number of orders received up to the date on which the analysis was made. These farm-bureau orders would increase the total number of trees for farmers and individual land-owners to more than half the total. Municipalities, including counties, ordered 1,120,100 trees, and industrial concerns 1,534,000 trees. Many large industrial concerns which are depending upon the forests for their raw material have begun private nurseries of their own, thereby relieving the demand upon the Conservation Commission's nurseries for planting stock. Rural schools, sportsmen's organizations, Boy Scouts, women's clubs, state institutions, and others sent in 59 orders, calling for 840,450 trees.



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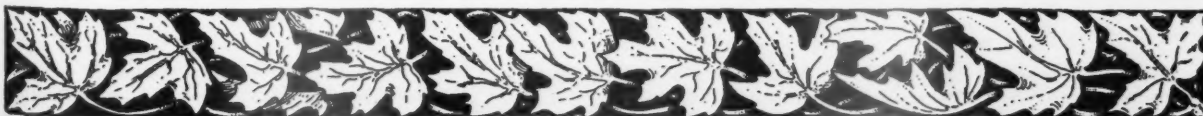
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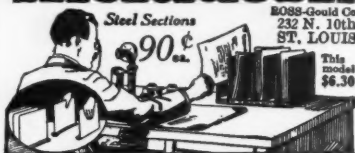
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## Rock Oak Forestry Camp For Older Scouts

(Continued from page 436)

them. He entered alike efficiently into forestry instruction and guidance of other activities. The Assistant Director, Louis Hornbeck, had charge of water sports and other recreation, living close to the boys in play and instruction.

His call roused the boys for the morning dip at 6:15, and for swimming and canoeing at 4:00 p. m. Saturday afternoons saw battles royal in canoe-tilting and other sports.

A month of it all passed swiftly, and the days, from early morning until the camp-fire fun stopped or the lectures were over, seemed very short. No need to sound taps or urge any to bed. They were all tired and happy. They had learned the value of hard work and clean, straight, honest thinking.

### INDIANA FORESTS SHOW RESULTS

The Division of Forestry of the Indiana Department of Conservation has been cutting several thousand ties and some lumber from its Clark County State Forest during the past winter.

Because of the forest having been established primarily to demonstrate the most satisfactory way to handle Indiana second-growth hardwoods, the object of the cutting was not simply to secure a financial return, but to put the forest in better condition to yield good returns in the future.

The stand on the forest is made up for the most part of white oak, chestnut oak, black oak, and scarlet oak. Of these species the first two, white oak and chestnut oak, are of high value and for the most part are sound. The latter two, black oak and scarlet oak, are of lower value and a great many of them are unsound.

The Department of Conservation aims, wherever possible, to place all projects under its supervision on a self-supporting basis. This policy is kept in mind in the management of the State Forest. It is planned to cut over each year a certain working unit of the forest. In this way a continued income of moderate size will be derived from the forest continually instead of securing a large income for a few years by heavy cutting and then having to wait a long time for a new crop.

At the same time the condition and yielding capacity of the forest will be increased, so that in the future greater returns may be expected from it.

### RECREATION PLANK IN FORESTRY ADVOCATED

At the fourth National Conference on State Parks, held at Gettysburg, May 26-28, the following resolution of special interest to both park and forest advocates was passed:

"Recognizing the vital necessity not only of a supply of timber, but more importantly in the protection of sources of domestic water supply, the restraint of disastrous floods, and in the provision of adequate and convenient recreational opportunities, of the forest cover of portions of the various states, attention is called to the indissoluble connection between state forests and state parks, to the advantage of both. Therefore it is urged that increasing attention be given, in the training of foresters, to the recreational uses of the areas considered; and, further, that in studying the needs of any state for reforestation such study be co-ordinated with a study of the recreational needs of the citizens as applied to the state parks."

One of the striking features of the meeting was the large number of foresters in attendance and the spirit of co-operation which prevailed throughout the sessions of the conference. That these meetings are serving to bring together the two interests and are making it possible for them to understand each other's problems and to work together to mutual advantage is apparent.

Other resolutions passed by the conference include a survey of the entire country to determine suitable areas for national and state parks; a declaration against roadside billboards, as an intrusion upon the beauty of Nature, and recommendations that the several states enact laws assessing billboards as improved property and placing their control under the State Highway Departments; a declaration that the protection and administration of public lands, whether parks, forests, or game refuges, should be kept out of politics and placed in the hands of technically trained men.

The conference elected the following officers for the ensuing year: John Barton Payne, chairman; Stephen T. Mather, vice-chairman; Beatrice M. Ward, secretary-treasurer.

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## The New York State College of Forestry Syracuse University Syracuse, N. Y.

THE State Forest Experiment Station of ninety acres at Syracuse, the Charles Lathrop Pack Demonstration Forest of 1,000 acres at Cranberry Lake (home of the Sophomore Summer Camp), three other field experiment stations, the Roosevelt Wild Life Forest Experiment Station, a modern pulp mill, a well-equipped sawmill, a complete dry-kiln plant, the biological laboratories, and an excellent reference library afford unusual opportunities for investigative work. A four-year course in Pulp and Paper Manufacture and a short course each spring in Dry-kiln Engineering and Lumber Grading are regularly given. In addition to the regular four-year undergraduate courses, special courses are offered that lead to the degrees of Master of Forestry, Master of City Forestry, Master of Science, Doctor of Philosophy, and Doctor of Economics.

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For further information and catalogue address: The Dean of the School of Forestry, New Haven, Connecticut, U. S. A.

## DR. DRINKER ELECTED PRESIDENT OF PENNSYLVANIA'S CONSER- VATION COUNCIL

Dr. Henry S. Drinker, President Emeritus of Lehigh University, Past President of the American Forestry Association, and for many years President of the Pennsylvania Forestry Association, was elected President of the Pennsylvania State Conservation Council on May 24, 1924.

The State Conservation Council of Pennsylvania is composed of over twenty statewide organizations interested in conservation and over thirty county conservation associations and county fish and game protective associations.

## WILD FLOWERS YOU MAY GATHER FREELY

Daisies and buttercups are still fair game for the automobile wild-flower hunter. No closed season has been declared on them by the Wild Flower Preservation Society, which has determined what wild flowers may or may not be freely picked without danger of extermination. The list of flowers which may be picked at any time is large.

The common field daisy is on the list, together with such other farm weeds as the wild carrot and the wild mustard. No amount of picking can destroy them, apparently. Buttercups are included, as is another old favorite, "butter and eggs." Black-eyed Susans, or "Ox-eye daisies," are also non-exempt, as are clover and dandelions. The dandelion home-brew crop is apparently forever assured, in spite of the increased demand resulting from prohibition.

Wild asters of all sorts, evening primroses, and everlasting may be gathered at will, and so may the stiffer and more formal boneset, wild sunflower, and joppy-weed. Goldenrod is fair game at all times. The list may be extended to include arrow-head, bindweed, California poppy, chicory, cinquefoil, dogbane, ground ivy, Japanese honeysuckle, the lupine of the western plains, milkweed, wild morning-glory, pokeweed, St. John's wort, touch-me-not, trumpet creeper, wild lilac, yarrow, and a number of lesser-known wild flowers.

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Large logging and milling operations, important wood-working industries, also extensive federal, state, and private forests near at hand. Excellent opportunity for summer employment.

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## ATTENTION, FORESTERS!

AMERICAN FORESTS AND FOREST LIFE will print, free of charge in this column, advertisements of foresters wanting positions, or of persons having employment to offer foresters.

### POSITIONS WANTED

GRADUATE FORESTER, B. S., M. S. E., Michigan University, 11 years' experience with U. S. Forest Service in California, Idaho, and Montana; one year railroad location and construction work; wishes position with lumber company or state service as forester or logging engineer. References furnished if desired. Address Box 7060, care AMERICAN FORESTS AND FOREST LIFE, Washington, D. C. (5-7-24)

FORESTER-LAWYER, studied at two forest schools and law-school graduate. Studied commerce one year at university. At present engaged in graduate study of economics as related to forestry at an eastern university. Desires to locate with a forest-products concern where a knowledge of both law and forestry will be useful. Interview desired. Available June 15th. Address Box 7065, care AMERICAN FORESTS AND FOREST LIFE, Washington, D. C. (5-7-24)

FOREST SCHOOL GRADUATE with some forest experience in the West and with training and wide experience in horticulture, including tree surgery, desires to return to forestry; either state, private, or municipal; preferably the latter. Forest experience includes blister-rust work with the U. S. Government. Full particulars and references given on request. Address Box 7070, AMERICAN FORESTS AND FOREST LIFE, Washington, D. C. (6-8-24)

YOUNG MAN, 18 years of age, high-school graduate, desires work in hardwood forests. Would like work which will give experience in practical application of forestry. Address Box 7080, care of AMERICAN FORESTS AND FOREST LIFE, Washington, D. C. (6-8-24)

GRADUATE FORESTER, B. S., Michigan Agricultural College, wants position with a pulp or lumber company as forester or forest engineer. Prefers northern location. At present employed in cypress operation. References. Address Box 7085, care of AMERICAN FORESTS AND FOREST LIFE, Washington, D. C. (7-9-24)

GRADUATE FORESTER with 14½ years' practical experience in all phases of forestry work—cruising and lumbering from stump to car—wishes position with lumbering company, coal company, state, or person owning large estates. Best of references furnished on request. Address Box 7090, care of AMERICAN FORESTS AND FOREST LIFE, Washington, D. C. (7-9-24)

## The "Western Forestry" Research Plan

[Continued from page 420]

due, for it was with their counsel that the plan was developed.

First attention will be given to cut-over lands. The several hundred thousand acres of such in these ownerships are distributed so as to represent most of the important types from California to Idaho. By the time this is published they will be covered by sufficient preliminary examination to enable decision as to further work to be featured in each locality. Hardly any two present the same problems and opportunities. Bear in mind, also, that there is a dual purpose: First, to get facts of bearing on general policy in the several regions, so as to perfect the impartial expert knowledge of the association and of all concerned; and, second, to study each individual situation from the owner's viewpoint. Broadly, however, from both viewpoints the project is to classify the lands as to their condition and use value for forestry or otherwise, to establish growth and yield figures for the sites concerned, to determine profitable treatment and protection methods, to calculate upon these things with all available economic information, and to draw at least tentative conclusions as to alternative retention and disposal policies and as to obstacles that may, perhaps, be met by intelligent action.

We are also finding keen interest in many subjects connected with operations in uncut timber.

The first year's work will be largely preliminary. It may take several years to obtain all the information needed on some of the tracts. And if handling this research work in such a co-operative manner proves successful, facilities will be provided to take on other lands until similar knowledge is well perfected for the entire Pacific coast region. Again, if it is successful, it will more and more develop into co-operation with the studies and recommendations of the various public forestry agencies, just as has the protective work of the same regions, similarly encouraged, thus tending to harmonize the views of all as presented to the public.

On the other hand, it seems reasonable to believe that such a system has its greatest value in establishing the facts and foundation of forest land policy rather than in carrying out the eventual detail of forest management where such is found feasible and is definitely adopted. Many details necessary in any private business enterprise of the kind are likely to be improper or impracticable functions of a neutral co-operative agency. It is my present opinion that such an agency can be of greatest use first in bridging the uncertain years while the whole situation is becoming clarified, then later in affording a clearing-house for the individual effort that proves desirable and is conducted by an independent person.

Number 7 of a Series

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A Life Membership in The American Forestry Association costs \$100.00, and carries with it a life subscription to the monthly publication *AMERICAN FORESTS AND FOREST LIFE*, in addition to a full paid-up membership in the Association.

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